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ABSTRACT

Begun in 1978 to bring manual arts experience to children in Queensland's "disadvantaged country areas," the Mobile Manual Arts Unit by the end of the 1980 school year had visited 16 separate locations, involving 25 different schools. A total of 727 students had participated (out of a target population of 992 pupils) and a total of 259 contact days had been achieved. Traveling in the South-West and Central Priority Country Area Program (PCAP) areas--the south-west region alone exceeds 318,000 square kilometers--the two workshops and their auxiliary vehicles form a fully equipped manual arts center for work in wood, metal, plastics, or welding. Capital expenditure during 1977-1980 was $191,700. During 1979-1980, equipment, material, staff, and vehicle running costs were $87,600, rising to $101,000 for the 1981-1982 financial year. In addition to working with elementary and secondary students, adult evening classes were held where demand existed. Evaluations gleaned from a variety of sources showed that pupils, teachers, and principals were generally in agreement about the positive value to country schools of the Unit's visits because of the quality of programs offered and the professionalism of the staff. Future issues include deciding the extent, if any, to which the Unit should be shared with other PCAP regions, how to contain costs, and under what conditions could the unit be disbanded. (BRR)

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PRIORITY COUNTRY AREA PROGRAM EVALUATION SERIES: REPORT NO. 11

The Mobile Manual Arts Unit in South-West Queensland

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August 1983

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Map 1: Schools in the South-West Priority Country Area

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SUMMARY

SCOPE OF THE REPORT

This report provides an account of:

- the purpose of the Mobile Manual Arts Unit (MMAU)
- the context in which it operates
- the service which it operates
- reactions to that service.

Information for this report was obtained from:

- records kept by the Mobile Manual Arts Unit and the Priority Country Area Program office
- questionnaires completed by teachers, principals, students and adults
- interviews with teachers and educational administrators
- participant observation of the Unit.

PRINCIPAL FINDINGS

1. The aims of the Unit have accorded well with those contained in the literature relating to the role of Manual Arts in primary and secondary education.

2. The majority of informants judged that the Unit had provided a valuable service to schools and that its efforts had been well-received in the areas visited.

3. The Unit programs have successfully introduced pupils to a wide range of useful skills in woodwork, metalwork and plastics.

4. All pupil respondents, both male and female, judged that the time spent in the workshops had been worthwhile and most wanted longer visits.

5. Teachers and principals judged the Unit visits to have had a positive effect on pupil motivation, particularly in the case of low achievers.

6. Although Unit visits caused some disruption of school programs, both teachers and principals were agreed that the benefits received clearly outweighed any disadvantages.

7. Manual Arts teachers in country schools value highly the opportunity for professional contact with Unit staff.

8. The evening classes provided by the Unit are highly valued by participating adults and form a very popular feature of the service.

9. It appears that, in the course of a school year, a single manual arts unit can provide visits of two to three weeks duration to some twenty schools, thus involving between 400 and 500 pupils.

10. The Mobile Manual Arts Unit is a high cost project which to date has been limited to one region only. It will be necessary in the future to determine what priority should be given to the service in other regions.

CHAPTER 1

INTRODUCTION

Purpose of this Report

This report has been prepared in response to a request from the State Management Committee of the Priority Country Area Program (PCAP)* for an evaluation of the Mobile Manual Arts Unit (MMAU) operating in South-West Queensland. It is Number 11 in a series of evaluation studies intended to provide:

- a descriptive portrayal of PCAP initiatives;
- feedback to PCAP staff about the services being offered;
- information for persons and committees responsible for deciding PCAP policies; and
- a measure of accountability to the Schools Commission in particular and to the community in general.

The Evaluation Approach

In line with the above considerations, an evaluation approach was developed which sought answers to the following questions:

- What is the purpose of the MMAU?
- What is the context in which it operates?
- How does it operate?
- What is the cost of these operations?
- How do the Unit's operations benefit schools?
- What are the issues facing decision makers?

In seeking answers to these questions, the study has relied heavily on the perceptions of those most closely involved in the Unit's operations and of others with expert knowledge in Manual Arts. In making use of such data, the writer has endeavoured to follow the advice by Tawney (1976) concerning the evaluator's role:

"He may present other people's judgments but he ought not to judge the main issues himself".

Evaluation Methods and Procedures

Information for this report was obtained in the following ways:

- from evaluation sheets completed by pupils and teachers of schools visited by the Unit during 1978, 1979 and 1980;
- from a survey of adults attending evening classes provided by the Unit;
- by participant observation of the Unit in action;
- from records maintained by Unit staff;
- by analysis of the documentation in the PCAP office;
- from visits to schools in the South-West Priority Country Area and discussions with staff and pupils;
- from discussions with Unit staff;
- from discussions with manual arts inspectors and other staff of the Department; and
- from comments submitted by Local Advisory Committees.

* A description of the Priority Country Area Program appears in Chapter 2.

The Purpose of the Mobile Manual Arts Unit

In the first PCAP Report (Connell, 1977), the purposes of the Mobile Manual Arts Unit were summarised as follows:

- to provide facilities which will enable pupils to undertake a specially designed Manual Arts course relevant to the needs and interests of country children; and
- to assist children to develop a range of practical skills, a knowledge of certain machines, tools and materials, and an appreciation of safe working habits.

In order to achieve these aims, two mobile workshops were developed to visit schools in the South-West and Central PCAP regions. Although towed separately from school to school by prime movers, the workshops can be joined by a demountable annexe when on location to form a fully-equipped manual arts centre.

At the time of the original conception of the Unit, only one priority area – the South-West – had been declared. By late 1978, when the Unit commenced operations, the Central Area had also been declared and the Unit's itinerary was extended to include certain schools in the western part of the latter region. Any consideration of the context of operations has, therefore, to take these factors into account.

The Mobile Manual Arts Unit and the Priority Country Area Program

As already indicated the Mobile Manual Arts Unit (MMAU), is one of the various initiatives of the Queensland Priority Country Area Program. For readers unfamiliar with that Program a synopsis is provided in Appendix A. It will be observed that the Program is funded by the Schools Commission to improve the educational opportunities of children resident in country areas. With a 1981/82 budget of $1.8 million, the Program is currently (May 1982) responsible for more than 20 major initiatives in three rural areas which together total 50 per cent of the State (see map, Appendix A).

Overall co-ordination of the Program is achieved through a State Management Committee, assisted by Regional Committees in each of the three priority areas. Day to day administration of the Program is the responsibility of a PCAP Co-ordinator in each region, working in conjunction with a General Secretary based in Brisbane. In administering the Unit's operations, PCAP has been greatly assisted by the Manual Arts Inspectors of the Department of Education, who have also devised the unique staffing system which is described later.

The Area Served by the Unit

A summary of the geographic and demographic features of the South-West area served by the Unit is provided in Appendix B. Of particular relevance to the Unit's operations are the climate, the road network, the distribution of population and the overall extent of the area. For instance, the high summer temperatures, frequently exceeding 40°c, make it difficult to maintain comfortable working conditions in workshop facilities which take the form of mobile vans.

The sheer size of the area involved – the south-west region alone exceeds 318 000 km^2 – has clear implications for the distances which have to be travelled by a mobile unit. Also, despite its size, the area supports only small numbers of people and population densities are extremely low (0.08 persons per km^2 in the south-west). These factors have produced a widely scattered pattern of settlement which has resulted in relatively few schools, of generally small size, separated by vast distances. The problems this poses for a large mobile unit are exacerbated by the limitations of the road network throughout much of the area.

The response to these difficulties, in terms of both the design and operation of the Unit, is examined in appropriate sections of this report.

Educational Provisions in the Area Served by the Unit

As previously indicated, the Unit operates mainly in the South-West Priority Area, but also visits a limited number of schools in the Central Area. Appendix B reveals that some 33 State and 7 non-State schools were located in the South-West Area in August 1981, with a total enrolment of 5061 pupils. Equivalent figures for the Central Area were 41 State schools, 3 non-State schools and a total enrolment of 8191 pupils. The distribution of these schools is shown in Map 1. Those which have been visited by the Unit, since it commenced operations in 1978 up to the end of 1981, have been indicated. Of particular relevance to the Unit's operations are the distances between schools in much of the south-west and the large number of small, isolated schools. Details of the numbers and types of school and total enrolment through the two areas are summarised in Table 1.

Table 1: Schools and Enrolments in the South-West and Central Priority Country Areas

Type of School	South-West		Central		Totals	
	Number of Schools	Enrolment	Number of Schools	Enrolment	Number of Schools	Enrolment
Primary*	31	2762	36	5074	67	7836
Primary/ Secondary	6	966 445	5	1347 484	11	2313 929
Secondary (high)	3	888	3	1286	6	2174
TOTALS	40	5061	44	8191	84	13 252

* Of the schools with primary classes, 64 per cent were 'small schools', with enrolments of less than 100.

For children unable to attend school, usually for reasons of isolation, correspondence lessons are available from the Primary and Secondary Correspondence Schools in Brisbane. Children receiving primary correspondence lessons may also enrol with the School of the Air in Charleville or Mt Isa. At the end of 1981, there were, within the two areas, 319 pupils enrolled with the Primary Correspondence School and 78 school age students enrolled with the Secondary Correspondence School. There is also financial assistance available from the Commonwealth Department of Education which enables many isolated students to complete their secondary education at boarding schools.

In addition to the above provisions, there were 11 pre-schools, 21 primary schools with pre-school classes, and three special education centres within the two regions. The Isolated Children's Special Education Unit in Brisbane provides assistance to pupils in small schools or on correspondence education who have learning difficulties. Tertiary facilities are limited to a pastoral college in Emerald.

PCAP services available in the south-west are listed in Appendix B. The principal thrust of PCAP activities is to provide support services for country schools, through the provision of specialist staff and facilities, and in addition to provide assistance to families with children on correspondence education. The Mobile Manual Arts Unit, with its specialist teachers and well equipped workshops, represents one attempt to provide a service for country schools.

In regard to the provisions for instruction in Manual Arts, standard workshop facilities exist in all State High Schools and Secondary Departments throughout both regions, except for Alpha and Tambo which have none. At St Johns, Roma, the only non-State school with secondary classes, a local arrangement allows students some access to the facilities in Roma State High School. At the primary level, no provision is normally made for manual arts instruction in Queensland schools. The whole question of manual arts facilities in the two areas is discussed in more detail when the rationale and functioning of the Unit are examined in the next chapter. However, it may be noted here that there are no evening classes available in manual arts apart from those provided by the Unit.

CHAPTER 2

DEVELOPING AND IMPLEMENTING THE CONCEPT OF A MOBILE MANUAL ARTS UNIT

Origins and Rationale of the Unit

The provision of special manual arts facilities for country children has had a long history in Queensland, dating from the first mobile workshops, built into railway carriages, which came into service in 1925 (Holthouse, 1975). Each of the two carriages was equipped for woodwork, metalwork and leatherwork. They operated in tandem with the two domestic science carriages which had commenced service in 1923, the arrangement being for one manual arts and one domestic science car to visit each location. This arrangement allowed boys and girls from the same school to train at the same time, and classes were held wherever 10 or more boys and a similar number of girls could be brought together at a railway siding. This system worked effectively for many years, until improved school facilities in centres served by the railway resulted in the withdrawal of the last pair of carriages in 1967.

It is of interest that mobile units have also been used in the USA to assist elementary (primary) schools which do not have 'industrial arts laboratories'. Wilber and Pendered (1973) offered the following description of such units:

> "The third plan is similar to the second one except that the laboratory is a mobile unit housed in a truck, van, or trailer. On arrival at a given school, the tools, supplies, and equipment may be unloaded and used in an all-purpose room of the school. Or the mobile unit itself may be used as the laboratory. Commercially-produced mobile units are now available which provide a complete array of tools, supplies, and equipment in a self-contained air-conditioned trailer approximately 10 feet by 30 feet. Mobile units are manned by industrial arts specialists who assist the classroom teachers in providing construction type activities. A mobile laboratory unit is especially valuable in servicing schools in rural areas where small pupil enrolments may prohibit the establishment of more elaborate facilities or where the school district is simply unable to purchase the necessary tools and equipment."

Of particular relevance to the present study are the references to the value of mobile units in country areas, the air-conditioning of the vans, and the availability of commercially produced units, suggesting that the provision of such facilities for primary level pupils is not uncommon.

With the advent of PCAP in 1977, the notion of a mobile manual arts facility in Queensland was reborn. To allow direct access to a greater number of school sites it was decided that the new unit would travel by road, a change made possible by the steadily improving road network in south-west and central Queensland. Owing to the improved educational facilities in country areas of the State, the rationale for the new unit was also somewhat different.

In correspondence * following the original submission relating to the new unit, the argument was stated as follows:

> *"Provision of experiences to both boys and girls from Years 6–12*
>
> The focus of the program to be initiated will be secondary students who presently do not have access to a full range of manual arts facilities. Hence it will involve students in secondary schools which are not able to provide full manual arts courses, and those enrolled with the Secondary Correspondence School.

* From an analysis of documentation in PCAP office.

In including upper primary school children in the program it is not intended that all such children will participate. Because a number of school children in the area enrol with Secondary Correspondence or attend secondary departments at the completion of Year 7, it is highly likely that they will have only a limited exposure to a range of manual arts experiences during their schooling. The scheme, then, attempts to organise a limited range of activities which will provide such children with simple tool skills, and an appreciation of safe working habits.

Hence on a visit to a school such as Thargomindah children in upper primary grades together with children in the locality enrolled with one of the correspondence schools would be brought together for a short intensive course mainly dealing with woodwork. Such a course would require one of the workshop vehicles only. The other vehicle could be centred at Charleville where the welding unit would be utilised solely at the high school by students in Years 8–12. [It should be noted that at the time of this submission certain high schools including Charleville did not have full workshop facilities.]

It is not envisaged that primary pupils in large centres such as Charleville, Roma, St George, Cunnamulla would be involved.

Type of Course to be made available

It is not intended that teachers in the mobile workshops will be offering a course which could be equated with a Board of Secondary School Studies subject. Rather the concept is one of providing a range of special activities designed to equip pupils with a range of technical skills relevant to their particular environment; such skills requiring both knowledge and understanding of a range of equipment and materials.

By involving children in correspondence education in the activities of the workshop it will be possible to provide information to the Secondary Correspondence School on a range of problems which would be encountered should they decide to provide a correspondence course in manual arts. Secondary Correspondence has already indicated its willingness to provide some initial support in developing pupil material which could be sent to schools and home supervisors both prior to and following visits by the workshops."

It may be noted that, although the PCAP Unit was intended primarily to assist secondary students without access to a full range of manual arts facilities, it was also expected to provide a service to pupils in Years 6 and 7 at selected primary schools. It will be appropriate, therefore, to consider the size and needs of the target audience before proceeding further. An important point in this regard is the reference to 'both boys and girls' in the above quotation. In accordance with current educational trends, and Schools Commission policy, the Unit has aimed to provide equality of educational opportunity to all students in the area which it serves. Consequently, the target population has included female students from the beginning. Table 1 revealed that in the original target area (the South-West PCAP Region), there were 898 secondary students enrolled at high schools and a further 445 pupils attending secondary departments. In addition, there were 45 school-age pupils enrolled with the secondary correspondence school, of whom some 15 were attached to Quilpie State Primary School. At the high schools, the students have access to a range of workshop facilities comparable with those in smaller high schools throughout the State, although there is, of course, a general absence of welding facilities in such institutions, and none in the PCAP schools.

Of the six secondary departments in the south-west, all have workshop facilities except St John's School, Roma.* The standard provision in such schools is normally a single combined woodwork/metalwork shop and one specialist teacher. Thus, compared to the high schools, the range of equipment and expertise available to students tends to be of a more limited nature. In these circumstances, the following comment about the breadth and scope of the modern manual arts curriculum, taken from the Report of the Australian Council for Education Through Technology (1979), has particular relevance:

* The Secondary Department at St Mary's, Charleville, which also had no manual arts facilities, was closed at the end of 1980.

"There are few teachers who have had a broad enough experience or depth of knowledge to cope with this diversity. The emphasis the syllabus has in any school therefore depends upon the temperament and experience of the teachers employed."

This trend is necessarily greater in schools with only one manual arts specialist.

In the case of St John's School, Roma, an arrangement with the local high school has enabled Year 8 classes to use the workshop facilities at the latter institution. Unfortunately, pressures on workshop time have prevented Years 9 and 10 classes from also using the workshop. In addition to the 45 students enrolled with the Secondary Correspondence School, this leaves some 60 secondary schools students in the south-west without any access to manual arts facilities.

In the case of the primary schools, the numbers enrolled in Years 6 and 7 totalled slightly in excess of 1000 pupils for the south-west PCAP region. If, however, the numbers in the larger centres, such as Charleville, Cunnamulla, Roma and St George, are subtracted, a target population of about 450 pupils is left, in addition to some 50 Years 6 and 7 pupils enrolled with the Primary Correspondence School. In practice, this total is further reduced owing to the small concentrations and inaccessability of the primary school population throughout much of the area.

Defining the target population in the Central PCAP Region is less problematic, since the Unit has, from the first, been regarded as primarily a south-west initiative. In practice, extension of the service into the Central Region has been limited to Alpha and Tambo schools, where there are secondary departments with no manual arts facilities. In recognition of their special need, these two schools have been included in the Unit's annual itinerary since operations commenced late in 1978. This arrangement has added a further 60 secondary students and 70 primary pupils, in Years 6 and 7, to the main target population located in the South-West PCAP Region. At the time of writing, other schools in the Central PCAP Region had not been able to participate in the service.

Viewing the target population as a whole, four major types of school situation could be identified:

- schools with secondary pupils and no manual arts facilities, where the PCAP Unit would provide the only source of manual arts instruction;
- secondary departments with limited manual arts facilities, where the PCAP Unit would supplement existing provisions;
- primary schools, where the PCAP Unit would provide curricular enrichment; and
- high schools without welding facilities, where the Unit would make good this deficiency.

In this connection it may be noted that when Unit itineraries were discussed by the South-West PCAP Regional Committee in November 1980, the list of priorities recommended coincided with that shown above.

As the result of a recent policy decision, a temporary change of emphasis in relation to the target population has occurred. During 1982, the Unit's efforts will be concentrated on providing a full manual arts course, to Board of Secondary School Studies requirements, in the three schools (Alpha, Tambo and St John's) where lack of facilities has previously made provision of such a course impossible. It is envisaged that this will occupy the Unit for approximately two-thirds of the school year. For the remaining one-third, the Unit will visit selected schools as before. It is not envisaged that this modified itinerary will be necessary during 1983, since Alpha and Tambo schools are being equipped with their own manual arts facilities and alternative arrangements have been made for St John's.

Aims and Objectives of the Unit

In the original submission, tabled before the Joint Committee of the Priority Country Area Program on 19 July 1977, the aims and objectives of the Unit were stated as follows:

"Aims

1. To provide facilities in the form of mobile practical workshops to enable students to undertake a structured course in manual arts in remote areas where these facilities are either limited in scope or non-existent at the present time.
2. To provide a service which will promote the professional development of teachers (parents, etc.) in remote areas.

Specific Objectives

1. To develop psychomotor skills.
2. To develop knowledge of modern day materials and the techniques of joining, bending and shaping these materials.
3. To develop the skill of reading working drawings, assembly drawings, pictorial views.
4. To develop a knowledge of machines, machinery, portable electric power tools, welding, spray painting and motor mechanics.
5. To develop a knowledge of, and appreciation of the need for, 'safe' working practices."

It will be observed that, in addition to the provision of a structured course for students, the aims also mentioned a service for the benefit of teachers and parents in remote areas. Although this aim did not appear in the final draft of the proposal for the Unit (Appendix C), it has not, in practice, been abandoned.

In relation to the specific objectives, those stated would appear to be in harmony with the overall intentions of the Unit and, with the possible exception of Item 4, appropriate to both primary and secondary pupils. However, their emphasis upon the psychomotor and cognitive domains produced the following reaction from one manual arts specialist:

> "I would have thought that affective objectives would have been more prominent. Omitted from the overall objectives is mention of co-ordinated teaching experiences, sense of satisfaction from personal achievement, development of technical vocabulary, working in harmony (co-operative efforts, consideration for others), design fundamentals, orderly procedures."

It may be noted here that a more detailed list of objectives was probably considered inappropriate in a submission document and that, in practice, the Unit has attached considerable importance to the affective domain. It thus became increasingly apparent that any attempt to evaluate the Unit's operations solely in terms of the aims and objectives stated in the PCAP documentation would be unnecessarily limiting and therefore inappropriate. It was consequently decided to supplement the range of stated objectives by referring to the literature for additional criteria against which the performance of the Unit could be judged.

The Value, Aims and Objectives of Manual Arts in Schools

The value of manual arts as a component of the school curriculum for all children has been argued on many occasions. The following examples are a typical selection:

> "The direct contact with materials, the manipulation of simple tools, the capacity to create by hand from a concept in the mind – all these are indispensable aspects of the general education of everyone."
>
> (Report of the Harvard Committee, 1945)

> "The practical side of school life needs to be increasingly recognised for the contribution it is able to make to general education – it is an opportunity for children to develop their inherent manual and artistic skills, without in any way leading to a specific vocation."
>
> (Education in a Technological Society, UNESCO, 1960)

"Industrial Arts is an essential part of general education. It is conceived as an answer to the problem of educating boys and girls to live in a world which may be accurately characterised as industrial and technological."

(Wilber and Pendered, 1973)

There is thus a considerable body of literature which sees manual arts as an essential component of the general education of all pupils. Numerous authors (e.g. Gerbracht and Babcock, 1959; Wilber and Pendered, 1973) have also argued that it should form an integral part of the curriculum at both primary and secondary levels. In addition to such general arguments supporting the curriculum value of manual arts, much has also been written about the more specific aims and objectives to be pursued.

Typical of the aims suggested as appropriate at the primary level would be those listed by Wilber and Pendered (1973):

1. Acquaint children with the industrial-technological aspects of their culture.
2. Reduce levels of abstraction, develop adequate meanings, and enrich the curriculum.
3. Provide for individual differences.
4. Provide socialising experiences.
5. Supply the beginnings of occupational information.
6. Make school and learning enjoyable.
7. Motivate learning.
8. Teach fundamental manual-mechanical skills.

By combining these items with the documented aims and objectives of the Unit, it would appear that a suitable range of aims and objectives becomes available against which the performance of the Unit in primary schools can be compared.

In relation to the secondary curriculum the greater emphasis generally accorded to manual arts at that level of education has produced a wealth of detailed and exhaustive lists of instructional aims and objectives (e.g. Giachino and Gallington, 1977; Wilber and Pendered, 1973). In Queensland, syllabus documents produced by the Board of Secondary School Studies have also contained detailed statements of this nature, and an extract from the Board's 'Introduction to Manual Arts Syllabuses' appears in Appendix D. This not only gives some indication of the aims and objectives pursued in Queensland secondary school manual arts courses, but could also be regarded as a representative example of those advocated in the literature. The only aim, commonly occurring in the literature (c.f. Giachino and Gallington; Wilber and Pendered above), to which there is no direct allusion is that of consumer education in respect of industrial products. With this addition, therefore, the Board's statement could be regarded as providing a useful indication of what a full manual arts course at secondary level might hope to achieve.

Clearly, where the Unit is simply augmenting existing courses and facilities at the secondary level, there is no intention that its activities should fulfil all of these aims and objectives. Rather, it is the intention that the Unit would assist the school in achieving success in that direction. Where, however, the Unit is attempting to provide the full Board course during 1982 to the three schools with no manual arts facilities, the full syllabus requirements would apply.

The Design of the Mobile Manual Arts Unit

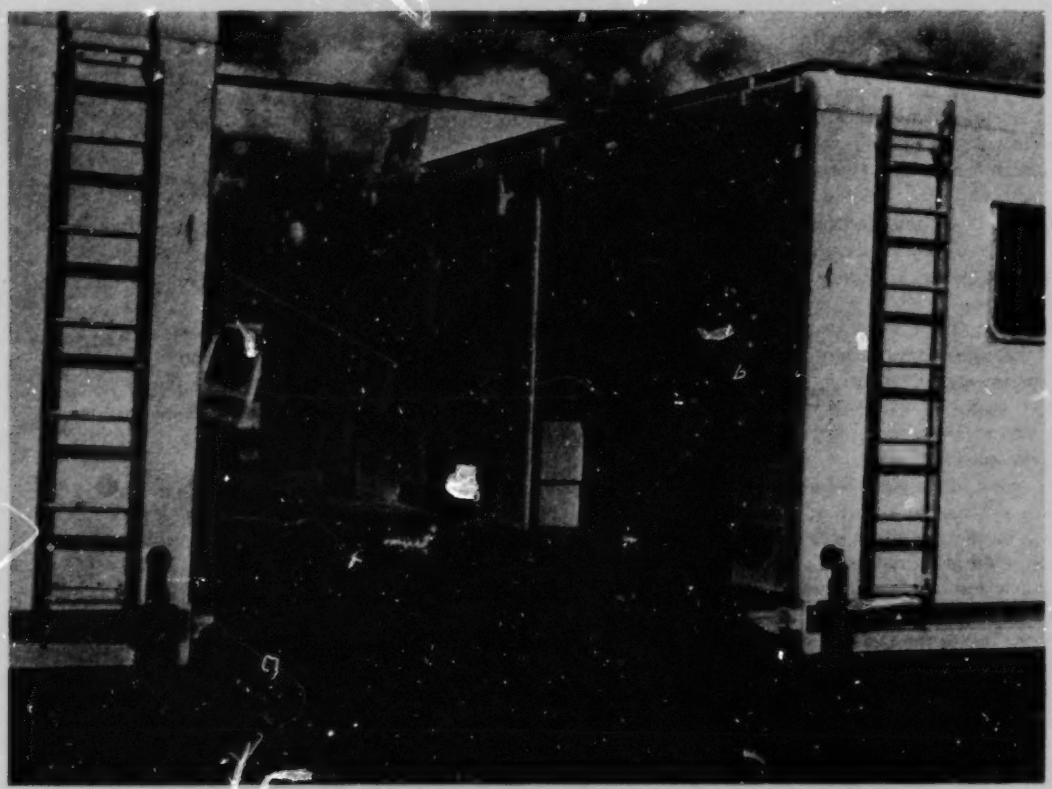
The following extract concerning the design of the Unit and the facilities incorporated was written by a member of the Unit staff. It originally appeared as part of an article in 'Studies in Design Education, Craft and Technology — A journal of new approaches' (Volume 14, No. 2, Spring 1982):

"The idea was to equip a fully operational manual arts workshop with all the facilities which could be found in a large metropolitan school. The problem was that the unit had to be totally mobile and robust enough to travel long distances each year."

"It was decided at the time that the basic facilities which should be offered by the van would include oxy-acetylene welding, electric arc welding, basic metal and wood machining and basic handcrafts in wood, metal and plastics."

Initially a group of manual arts inspectors, interested teachers and motor body building experts collaborated to come up with a basic design. The initial Unit which was born of this collaboration had its problems.

It was found, for instance, that the original chassis on the trailers was too light in construction to cope with the weight under normal and country road stresses. A dual axle system was converted to tri-axle and so on. The original prime movers were also under-powered for the job. It should be stressed that they do not act purely as prime movers but have the added function of incorporating back up facilities. The advent of these problems however did influence funding to allow for the flow of more money so that they could eventually be modified. The result is basically what exists today and is still operating quite successfully.



Setting up the Unit.

"Physically the actual workshop consists of two large, heavy duty caravans, each one measuring 30 ft long by 8 ft wide. On arrival at a school site the vans must be carefully manoeuvered into position so that they are parallel and 8 ft apart. The 8 ft spacing from one end to the other must be virtually to the inch. Each van is then levelled using jacks at each corner. A series of metal floor joists are now positioned between each van on specially fitted brackets. Several sheets of aluminium checker-plate flooring are then dropped into position. Each floor plate is then locked in place using a key system. This makes them virtually immovable. A 30 ft x 8 ft open area now exists between each van. To enclose this area each van

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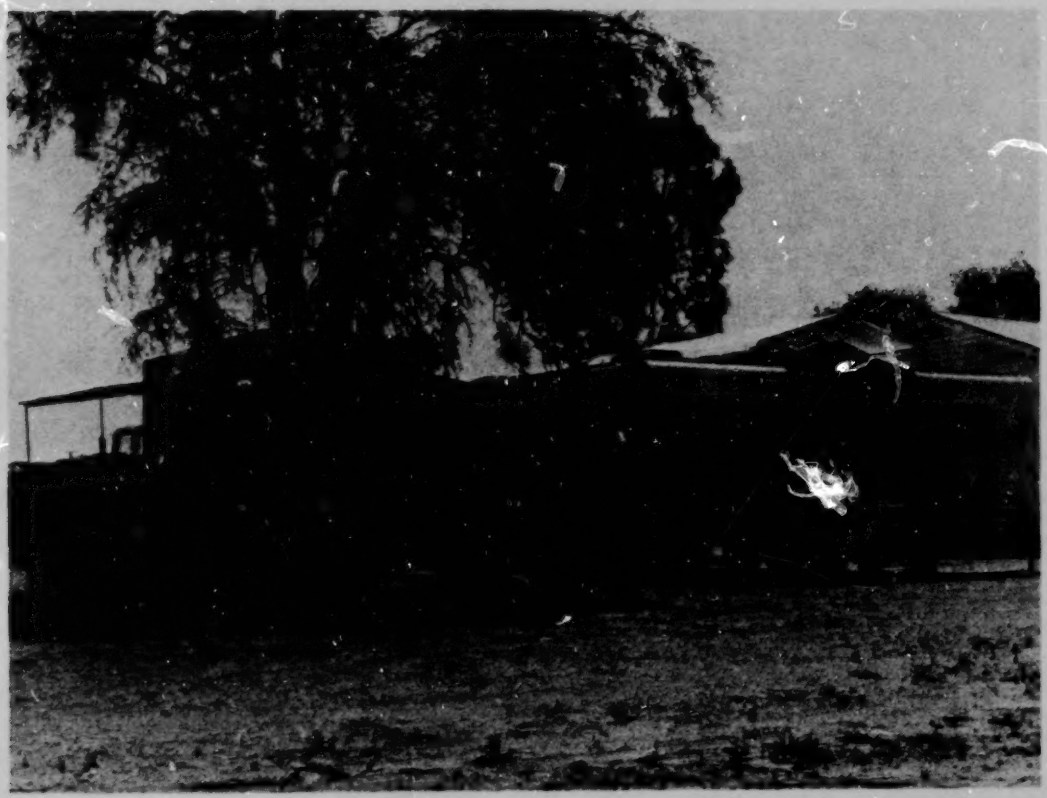
has large, removable side panels which are utilised for this purpose. Two of these panels are now relocated at each end of the open area and locked into position. A third panel is not normally required and hence stored elsewhere in case of emergency. A canvas roof is now fitted between the vans. Above this again a secondary 'tropical' roof is fitted. This allows for air circulation between the covers which has an insulating effect to combat heat build-up inside the workshop area. This can be quite considerable in summer months. The result is a general shop measuring 30 ft x 24 ft which is totally protected from the elements.



The Unit fully set up and providing its own electricity.

"Each van is towed by a seven-ton V8 truck. Toward the rear end of each side of one vehicle can be unlocked or raised to form an awning. Metal benches and sight screens then fold down from the truck; one on each side. When fully erected the result is three welding bays on one side of the truck specifically for electric arc welding and three bays on the other side specifically for oxy-acetylene work. Three phase power is linked via the truck to the workshops so that the electric arc welders may be used."

A third vehicle also belongs to the convoy. It is a four wheel drive unit which tows two generating sets. Although many schools are now equipped with three phase power outlets into which the mobile workshops can tap many others are not and so the workshop sometimes supplies its own electricity. Staff members on the Unit drive the vehicles, as well as erect and disassemble the workshop.

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Welding Facilities are also available.

"Having viewed the outfit as a whole it is now necessary to examine in more detail the internal facilities of each caravan. The central collapsible area between the caravans is a general area where students can work on any project from the wood, metal, plastics or welding areas. It is equipped with folding benches and vices but is generally non-specific in function."

"One van is equipped only for metal and plastic oriented projects. Hand tools for such activities are racked on the wall. The supply of each hand tool is on the basis of catering to an eight student class. In terms of fixed machinery this section offers: a small metal lathe, milling machine, drill press, bench grinder, panbrake, two buffing machines, a plastics oven and strip heaters for plastics. Such other portable tools as angle grinders are also in use and sometimes shared with the welding section outside."

"The other van is split into two parts. One section is an accommodation section for the staff. It consists of a full kitchen facility including a full-sized refrigerator and stove as well as a shower/toilet cubicle, dinette and triple bunks. This accommodation area is meant basically for emergency use."

"The other section is for woodcraft activities. Like the other van hand tools are racked in multiples of eight on the walls. Fixed machinery here consists of a band saw, wood lathe and a small drill press. There is however a wide range of portable electric tools which include drills, routers, jig-saws, an electric planer and portable circular saw and table."

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The Unit's Metalwork Section.

The Unit's Woodwork Section.

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"All fixed machines and power points can be isolated on a circuit breaker board in each van. The whole workshop area is also air-conditioned. This is a most necessary and welcome feature in a country where summer temperatures can often be well over 40°C. The accompanying diagram, which is not to scale, gives the reader some idea of the internal layout of the mobile unit when assembled." (Figure 1)

Staffing the Mobile Manual Arts Unit

It will be seen from Appendix C, that during the planning stages, the level of staffing envisaged for the Unit was two manual arts teachers, assisted by a unit support officer. However, following the first field trial at Tambo, with a staff of three manual arts teachers, the advantages of an extra teacher, instead of a unit support officer, became apparent, As a consequence, a staff of three specialist teachers became the complement for the Unit, based upon the following rationale.

1. A staff of three teachers:
   - facilitates maximum use of the Unit's various teaching areas, comprising woodwork shop, metalwork shop, general purpose annexe and welding bays;
   - permits the safe instruction of larger numbers of pupils through groups of optimum size;
   - provides a greater range of professional expertise;
   - reduces timetable pressures, thus facilitating the provision of preparation time;
   - through relieving daily pressures, increases staff capacity to offer evening classes; and
   - facilitates separate deployment of the welding facility.

2. The technical expertise of manual arts staff makes redundant the handy man role of the unit support officer.

3. With the current fleet of two prime movers and one four wheel drive vehicle, a minimum of three suitably qualified drivers is needed to relocate the Unit between visits.

In the selection of staff for the Unit, certain important considerations were recognised:

- during itineraries, the staff would be directly responsible for the care and maintenance of a Unit costing some $200 000;
- to maximise the effectiveness of school visits, they would need to be highly competent and dedicated teachers;
- they would also need to be well-qualified and experienced in order to gain acceptance as resource persons by school staff;
- they would need the necessary driving skills and qualifications;
- they would have to accept an itinerant life style; and
- some degree of continuity of staffing was seen as essential.

Owing to their involvement in the conception and planning of the Unit, the Manual Arts Inspectors of the Department of Education were fully aware of the dimensions of the staffing problem. Their response was to devise the unique system of staffing still operating. By careful selection, a small pool of suitably qualified Departmental teachers, willing to serve with the Unit, was created in the Brisbane area. Teachers from this pool have normally been attached to the Unit for seven or eight weeks at a time, on a rotational basis. Rosters are organised to avoid a complete changeover of all three teachers on any occasion.

Because of the itinerant nature of the operation, and their relatively short spells of duty with the Unit, the teachers normally occupy hotel/motel accommodation for the full seven or eight weeks. They are thus entitled to daily allowance for the whole of each period and the implications which this has had for the cost of Unit operations are considered later.

The Cost of Providing the Mobile Manual Arts Unit

As mentioned previously, the workshop vans were custom-designed and custom-built to meet required specifications. Final tenders were called in September 1977 and delivery of the workshops was taken in June

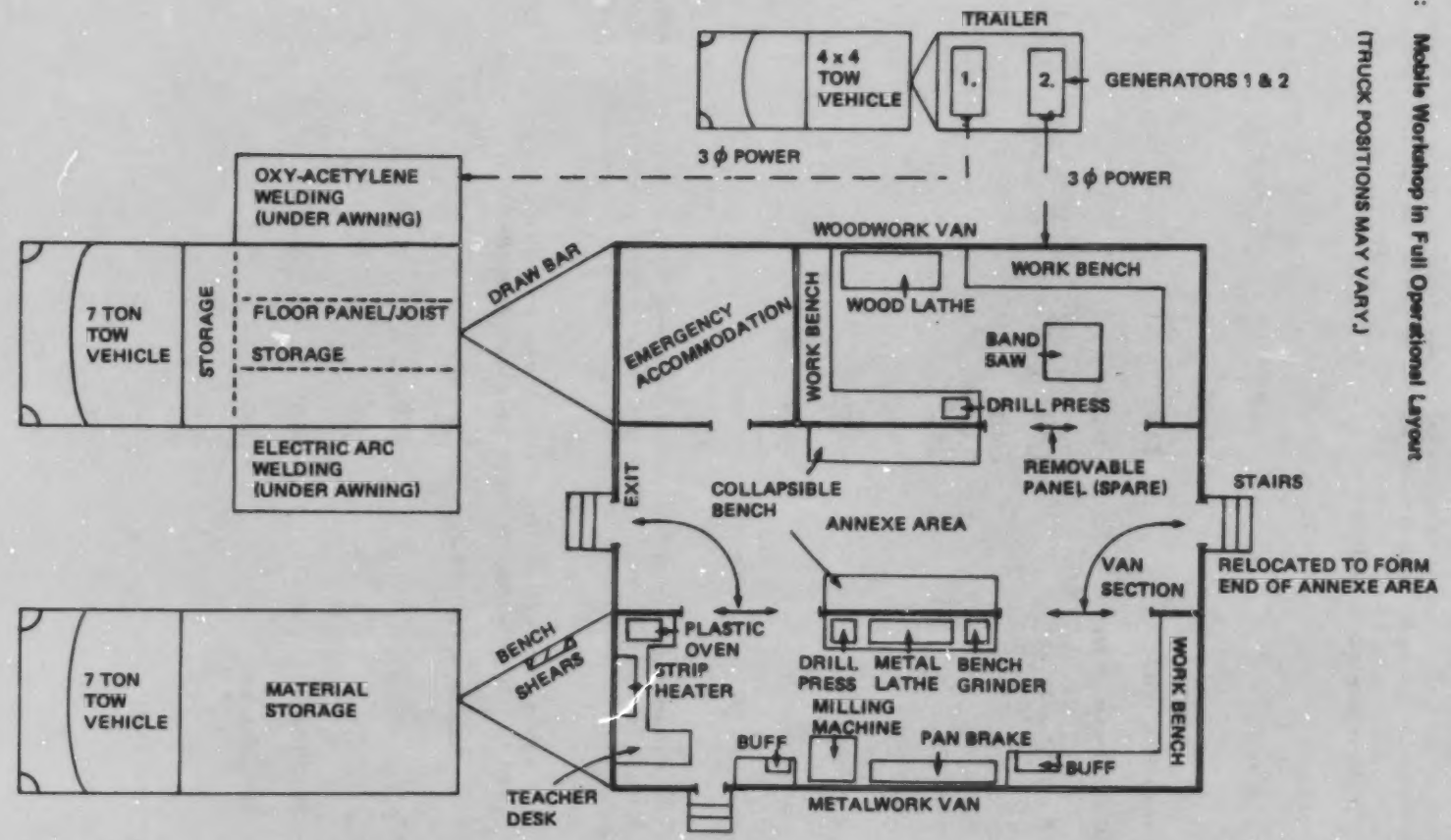


Figure 1: Mobile Workshop in Full Operational Layout

(TRUCK POSITIONS MAY VARY.)

1978. The capital expenditure detailed below included not only supply of the units and vehicles but also extensive 'fitting-out' with such features as storage facilities, tool racks, materials, equipment and furniture.

Capital Expenditure 1977–78	$
Metal work shop	31 500
Wood work shop	39 900
Annexe	7 500
Prime mover vehicles (2)	31 000
Four wheel drive vehicle (1)	8 300
Welding and storage facilities	9 000
Air-conditioning	4 000
Electric systems	8 100
Generators	9 400
Machinery/Equipment	18 500
Installation/fittings	24 500
TOTAL	$191 700

Because certain modifications to the original design were carried out later, on the basis of field experience, the final capital outlay on the Unit would have reached a total figure in the region of $200 000. Since no separate records of such expenditure were maintained, greater precision concerning the final figure is not possible.

In regard to running costs, PCAP and Departmental records revealed a total expenditure of $87 600 for the financial year 1979/80, which was the first almost full year of operations.

Recurrent Costs 1979–80	$
Equipment	4 300
Materials	3 000
Services/Incidentals	1 200
Travel/Daily Allowances	21 800
Insurance/Registration	400
Vehicle running costs	4 300
Staff Salaries	52 600
TOTAL	$87 600

During this period, the Unit made 19 school visits, involving 459 pupils, and achieved a total of 146 pupil-contact days. In addition, the Unit provided teacher and community groups with professional support and instruction, assisted with technical maintenance needs, and made goodwill visits to Blackall and Barcaldine schools outside the PCAP region.

However, it would be inappropriate to regard the above figures as entirely representative of a full year's operations, since the itinerary did not commence until September 1979. Thus, in the 1980 school year, the Unit visited 21 schools, provided instruction for 523 pupils and achieved a total of 184 contact days.

Referring back to the budget figures for 1979/80, it may be noted that, if the cost of staff salaries and allowances amounting to $74 400 is deducted from the total, other running costs amounted to only $13 200. Containment of this expenditure was achieved in several ways. The figure quoted for materials represented the replacement of expendables (files, drills, blades, etc.) and the cost of some consumable materials used in workshop projects. Adults attending evening classes met most of their own materials costs. During the initial stages of operation, the cost of materials for pupils attending the workshop was met from PCAP funds. Subsequently, on the basis of recommendations from the manual arts personnel involved with the Unit, pupils have been declared eligible for the equivalent of a standard Department of Education Manual Arts Grant to cover the costs involved in the completion of projects.

The willingness and ability of Unit staff to accept responsibility for repairing and servicing equipment has contributed to the control of expenditure on the maintenance of tools, machinery and vehicles.

Apart from the aforementioned modifications to the original design, recurrent expenditure on the vans and vehicles has been largely confined to running costs. However, appropriate allowance may have to be made in future budgets for the replacement of vehicles and workshops, when these become unserviceable or fail to meet the task requirements of the Unit. The present projected life of the workshop vans is 10 years.

As with other PCAP initiatives, inflation has resulted in escalating costs and the budget for the Unit has risen to $101 000 for the 1981/82 financial year. Because over 75 per cent of the total figure relates to salaries and allowances, attention has naturally been focused upon these items. Since, however, rates of salary and daily allowance are fixed by State awards, there appears to be little room for manoeuvre, apart from some reduction in the level of staffing and/or some change in accommodation arrangements. However, the difficulty of reconciling any such economies with the current style of operations has so far proved insurmountable.

CHAPTER 3

THE MOBILE MANUAL ARTS UNIT IN OPERATION

Itineraries and School Contact

Although the Unit was trialled for four weeks at Tambo during 1978, problems in obtaining suitable prime movers delayed the start of regular operations until September 1979. Since then, the Unit has followed a planned itinerary of visits to schools, selected according to:

- the priorities outlined in the rationale;
- accessibility by road;
- adequacy of enrolments at upper primary/secondary level; and
- geographical location in relation to other schools to be visited.

Table 2 provides a summary of locations at which the Unit had operated up to the end of the 1981 school year. It will be observed that the Unit had visited 16 separate locations and that 25 different schools had been involved. Of these 25 schools, nine had students of secondary age, in addition to their primary enrolments. It may also be noted that, during two visits in 1981, the welding facility was separately deployed at the local State high school. Map 3 shows the actual route followed during the 1980 itinerary.

At some of the smaller centres, the problem of obtaining sufficient numbers of pupils to justify a visit was overcome by two or more schools. Thus, in the case of Quilpie, pupils from Eromanga and Windorah were billeted in the town throughout the visit so that they could participate together with the pupils from the two local schools. At Wyandra, the smallest centre visited, the potential number of participating pupils was increased to 20 by allowing Year 5 to join Years 6 and 7 in attending the Unit.

It will be remembered that the original rationale did not envisage the involvement of primary pupils in the larger centres such as Cunnamulla and St George. In practice, however, visits to meet the needs of non-State schools in these centres have provided the opportunity for participation by some of the State school pupils. In regard to visits to non-PCAP schools, these were included as a good will gesture towards areas which do not normally receive PCAP services and because the schools involved were conveniently situated in relation to the Unit's route.

The figures for contact time in Table 2 indicate that visits involving primary pupils were generally of two weeks duration, whereas those involving secondary students more commonly lasted for three to four weeks. The figures further reveal that during the first two years of operation, 1980 and 1981, the Unit achieved 179 and 172 contact days respectively. These totals suggest that contact time represented approximately 85 per cent of the total number of working days, leaving only 15 per cent for re-location between bases. This compares favourably with other PCAP mobile units, where contact time has generally averaged between 70 and 80 per cent of total working time (PCAP Evaluation Series, Report No. 9, 1982). A difference of this order would, however, be expected in view of the slightly smaller number of separate locations used by the Manual Arts Unit in comparison with the other Units.

In relation to the frequency of visits, Table 2 reveals that during the period under consideration (approximately two and a half years), eight PCAP schools were involved in three visits, five in two visits and three in one visit.

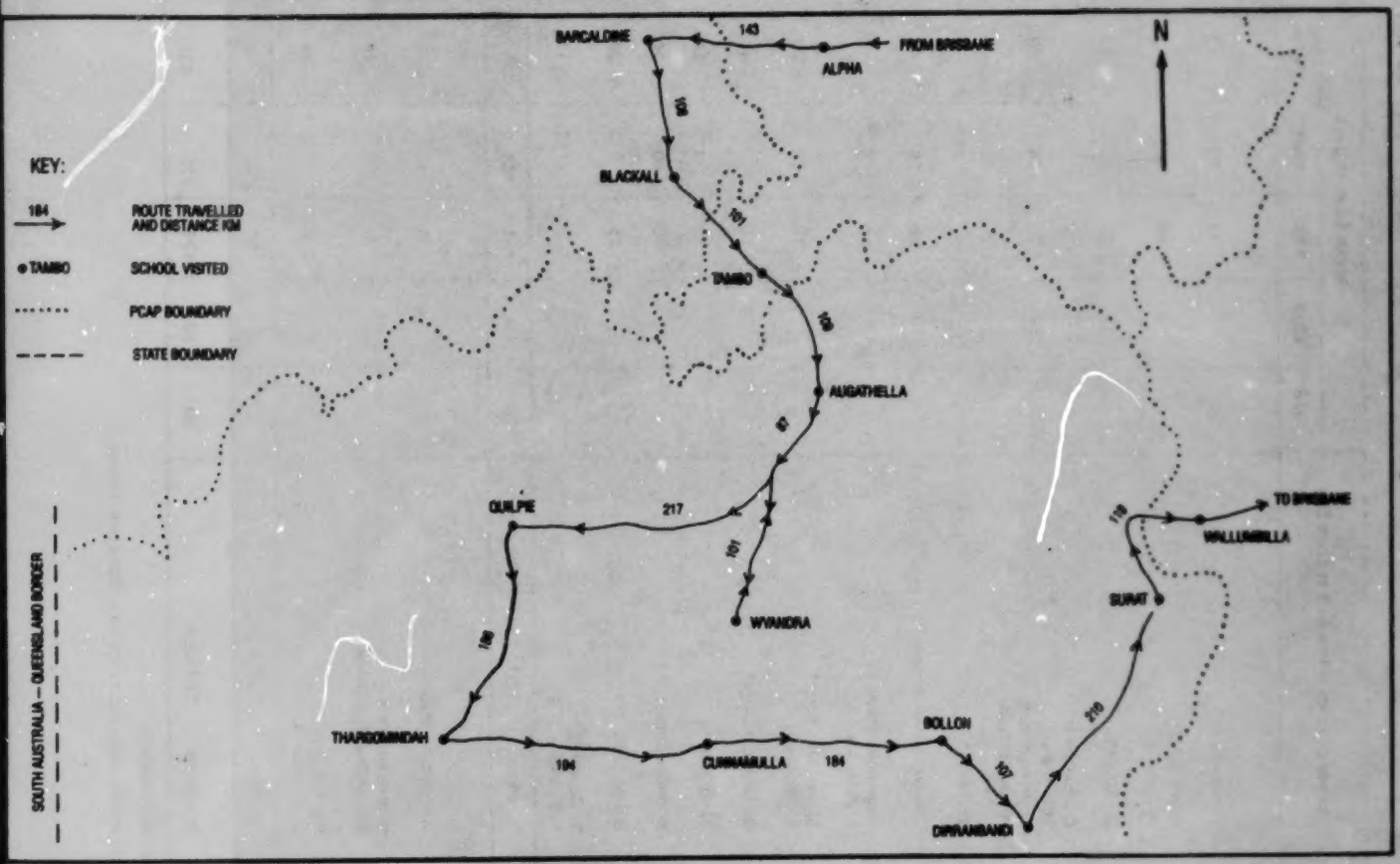
Details of the number of pupils involved in the Unit's itineraries during 1978, 1979 and 1980 are presented in Table 3. It will be observed that primary pupils made up more than half (59 per cent) of the total number of pupils involved and that slightly less than half (46 per cent) of the total number were girls. This is representative of the population figures as a whole with primary pupils accounting for approximately 66 per cent of the total enrolments in the area. The figures also reveal that some 31 correspondence pupils were able to participate and that the average number of pupils involved at each location was 45.

Table 2: Summary of Mobile Manual Arts Unit Itineraries from November 1978 to December 1981

Location of Site	Names of Schools Involved at Each Site	Number of Contact Days				
		1978	1979	1980	1981	Totals
Within PCAP region:						
Tambo	Tambo State*	20		18	15	53
Alpha	Alpha State* St Josephs		14	19	19	52
Charleville	St Mary's*		17		15	32
Quilpie	Quilpie State* St Finbars Eromanga State Windorah State		19	25	14	58
Roma	St John's*				9**	9
Thargomindah	Thargomindah State		10	25	14	49
Augathella	Augathella State St Patrick's			9	9	18
Cunnamulla	Cunnamulla State* Sacred Heart			10	10	20
Dirranbandi	Dirranbandi State*			15		15
Surat	Surat State*			15	9	24
Wyandra	Wyandra State			10	10	20
Bollon	Bollon State			15	9	24
St George	St George State St Patrick's				11**	11
13 locations	20 schools TOTALS	20	60	161	144	386
Outside PCAP region:						
Wallumbilla	Wallumbilla State			8	10	18
Barcaldine	Barcaldine State St Josephs, Barcaldine			5	9	14
Blackall	Blackall State* St Josephs, Blackall			5	9	14
3 locations	5 schools TOTALS			18	28	46
Overall totals 16 locations	25 schools TOTALS	20	60	179	172	431

* Schools with secondary students.

** Welding facility separately deployed at the local State high school.



Map 2: Mobile Mannal Arts Unit 1980 Itinerary

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Table 3: Numbers of PCAP Pupils Involved in the Unit's Programs during 1978, 1979 and 1980

	1978	1979	1980	Totals
Number of school pupils				
– primary	19 (11)	152 (84)	249 (107)	420 (182)
– (secondary)	31 (12)	111 (79)	134 (50)	276 (141)
Number of correspondence pupils				
– primary	–	1 (1)	8 (4)	9 (5)
– (secondary)	–	8 (4)	14 (3)	22 (7)
Total numbers of pupils involved	50 (23)	272 (148)	405 (164)	727 (335)
Number of seperate locations	1	4	11	16
Mean number of pupils per location	50 (23)	68 (37)	37 (15)	45 (21)

N.B. (1) Figures in brackets refer to numbers of female pupils included in totals.

(2) Totals do not include Blackall and Barcaldine visits, during 1980, for which no separate figures were available.

If this table is read in conjunction with Table 2, it becomes apparent that, during 241 contact days, 727 pupils participated in Unit programs and that, during the first full year of operations (1980), the Unit supplied a service to 405 pupils from 16 PCAP schools. Since the 1980 itinerary also included good will visits to a further five schools, the total number of participating schools that year was 21.

The actual itineraries summarised in Tables 2 and 3 represent a compromise between the original intentions concerning target population and practical planning considerations such as enrolment and location. Thus, on grounds of size, Wyandra represented a cut-off point and 16 small, isolated primary schools which could muster less than 20 pupils in Years 5, 6 and 7 were excluded from the service. The total enrolment in Years 6 and 7 at those schools in 1980 was 89 pupils.

Although, as mentioned above, some pupils from primary schools in two of the larger centres were able to participate in the Unit's program, this was fortuitous rather than intentional, and did not imply any change of target population to include the larger primary schools. Thus, for practical purposes, the target population was confined to Secondary Departments and to medium-sized primary schools. Of this modified target population all except two of the schools with Secondary Departments (Injune and Mitchell) and one primary school (Morven) had participated in the Unit's program by the end of 1981.

Details of the modified target population, based on the above considerations, are set out in Table 4.

Table 4: Modified Target Population Based on Actual Itineraries (1980 figures)

Region	Schools	Enrolments
South-West	7* Primary/Secondary	201 in Years 6 and 7
		444* in Years 8, 9 and 10
	12 Primary/Secondary	216 in Years 6 and 7
Central	2 Primary/Secondary	70 in Years 6 and 7
		61 in Years 8, 9 and 10
TOTALS	21 schools	992 pupils

* These figures include St Mary's, Charleville, which had a secondary department in 1980.

Owing to the difficulty of determining the appropriate figures, Table 4 does not include pupils on correspondence education. On the basis of attendance and accessibility, however, it appears that modified target populations for primary and secondary correspondence pupils would be in the region of 10 and 15 respectively.

From the foregoing tables, it would appear that each of the schools in the modified target population could have participated at least once in the course of a two year itinerary, while those accorded higher priority would have participated twice. In regard to pupils, although the figures suggest involvement once every three years, in practice the arrangement was flexible and negotiations between school principals and Unit staff decided which pupil groups would take part.

With the 1982 policy change described in Chapter 2, the longer stays at Alpha, Tambo and St John's will considerably reduce the time available for other school visits. However, during 1983, it should be possible for the normal itinerary to be restored as alternative arrangements are planned for these three schools.

Pre-Visit Preparations

To enhance the impact of the Unit's visits, arrangements were made for the Secondary Correspondence School to produce a series of Workshop Manuals. Towards the end of 1978, copies of these Pre-Workshop and Post-Workshop Papers were sent to all schools in the PCAP region. These were followed, early in 1979, by copies of the Unit's first itinerary. Some of the principal points mentioned in the covering letter and notes which accompanied the itinerary were:

- Unit staff would contact the school principal before each visit to arrange a timetable;
- maximum size of classes attending the workshops would be 25;
- maximum use should be made of the workshops during visits and the need to disrupt the normal timetable was indicated;
- unit staff would require some spare periods for preparation and maintenance;
- the program was available to girls as well as boys;
- teachers should accompany their classes to the workshop to facilitate the correlation of manual arts instruction with other school work;
- prior preparation of pupils, using the Pre-Workshop Papers, was essential;
- schools not participating in the Unit program were encouraged to use the Workshop Manuals as resource materials; and
- evening classes for adults/teachers would be provided on the request of the principal.

In those cases where it was decided to provide evening classes, a circular letter was prepared by the Unit staff for the information of interested persons.

The Workshop Manuals

These papers were produced by the Secondary Correspondence School to prepare for and to supplement the practical instruction supplied by the Unit during school visits. The basic course comprised four booklets for use before, during and after visits. The format and content of these papers are summarised below:*

(a) Orientation or Pre-Workshop Papers

Instruction Area 1
- Introduction to Manual Arts
- Introduction to the Workshop
- The Tools of the Workshop
- The Materials of the Workshop
- Safety

Instruction Area 2
- Workshop Projects
- Tools and their Uses
- Materials (manufacture)
- Introduction to Graphics
- Manual Arts Safety Notes

* More detailed information on the MMAU workshop booklets and other support literature can be obtained through the State Co-ordinator, Priority Country Area Program, GPO Box 1605, Brisbane, Queensland, 4001.

(b) Workshop Paper

Instruction Area 3
- Detailed Projects
- Graphics Exercises
- Special Tools
- Machines and Appliances
- Workshop Terms
- Library Reference

(c) Post-Workshop Paper

Instruction Area 4
- Home Projects
- Assignments

The Pre-Workshop Papers were sent to schools prior to the Unit's visit, so that the school staff could prepare the pupils for the workshop experience. The Workshop Papers were made available to pupils while attending the workshop to supplement the practical instruction. The Post-Workshop Papers, intended for use after the visit, contained a number of assignments designed to reinforce the course, in addition to some suggestions for further projects to be completed at home.*

These printed materials were supplemented by a set of tapes and slides intended primarily for use with the Pre-Workshop Papers. These topics and slides were designed to:
- introduce the basic tools and their uses;
- illustrate some of the materials used in the workshops;
- discuss job planning;
- indicate the steps involved in making simple items from wood, metal or plastic; and
- emphasise the importance of safety rules in the workshop.

Further supporting booklets were also produced on a number of selected topics:
- electric welding – arc;
- oxy-acetylene welding, brazing and cutting;
- plastics; and
- coil ignition, abrasive wheels, diesel and internal combustion engines.

Comments on the perceived usefulness, presentation and content of the papers appear in a later section of this report.

Programs and Activities During Visits

The Timetable

As previously explained, the Unit usually spends from two to four weeks at each location and during that time endeavours to provide an intensive course of instruction in manual arts for selected groups of pupils. To this end, the normal school timetable is usually modified to allow each group of pupils to attend the workshop for several periods each day. Within this broad pattern, the exact number of groups and periods of attendance are varied to suit the needs of the particular school. Consequently, there is no such thing as a typical timetable for a visit. However, to give some indication of the sort of program followed a sample timetable is reproduced in Figure 1. This particular timetable was selected because the author was able to spend several days observing the Unit on that occasion and further references will appear elsewhere in this report to the activities which were offered.

* More detailed information on the MMAU workshop booklets and other support literature can be obtained through the State Co-ordinator, Priority Country Area Program, GPO Box 1605, Brisbane, Queensland, 4001.

It will be noted from Figure 2 that classes were using the workshop for six out of the seven periods each day, allowing one period for preparation and maintenance. It is also apparent that, on this occasion, the main emphasis was on providing supplementary workshop experience for manual arts students in Years 9 and 10. The four periods allocated to Year 7 pupils were intended to provide not only curricular enrichment but also a stimulating introductory manual arts experience in preparation for Year 8.

The Nature of the Course and the Activities

The courses offered by the Unit during school visits had to be carefully planned to take account of a number of factors, which included:

- the relatively short period of time spent at each school;
- the possibilities and limitations of the mobile workshop facilities;
- the need to cater for pupil variables such as age and previous experience;
- the need, where appropriate, to supplement and complement, the school's manual arts course; and
- the Unit's visit might be the pupil's first experience of manual arts.

As a consequence of these considerations, Unit courses have developed certain distinctive characteristics. Thus, because of the limited time available, they are highly intensive, with one teacher to each group of eight or nine pupils. For the same reason, maximum use is made of power tools, wherever appropriate, to speed-up operations, and theoretical work is kept to a minimum to allow maximum use of the workshops' practical facilities. The small groups are also, of course, dictated by the design and layout of the Unit, described earlier.

Apart from a short introductory session, pupils devote almost all of their time in the workshops to completing practical projects and, in order to cater for pupil groups of varying ages and experience, a very comprehensive range of projects has been devised. A full list of these projects, with details of subject areas and the levels at which they are used, is provided in Table 5.

The 38 projects vary in difficulty from a simple wire coat hanger, suitable for primary pupils, to a car jack stand, which requires the advanced metal working skills appropriate to senior secondary students. It will be noted that the list includes approximately equal numbers of projects in each subject area and that there are 22 projects suitable for primary students, 30 projects suitable for secondary students and 10 projects which were considered also suitable for adults.

The major criteria for choosing projects for inclusion in the list were:

- the projects could be completed in a relatively short period of time, to enable each pupil to complete several projects during a visit;
- the project involved the learning of useful skills and processes; and
- the project was intrinsically interesting and worthwhile.

The number of projects completed by pupils during a Unit visit ranged from three to seven, with an average of four.

To give some indication of the wide range of skills needed in the completion of these projects, Table 5 also shows the skills involved at the primary and secondary levels respectively. It may be noted that the projects provide practice in 15 woodworking, 12 metalworking and 10 plastics skills at the primary level. At the secondary level the figures are 22, 17 and 9 respectively.

Table 5 refers to the major skills involved and have been based on the information supplied by the Unit staff concerning each project.

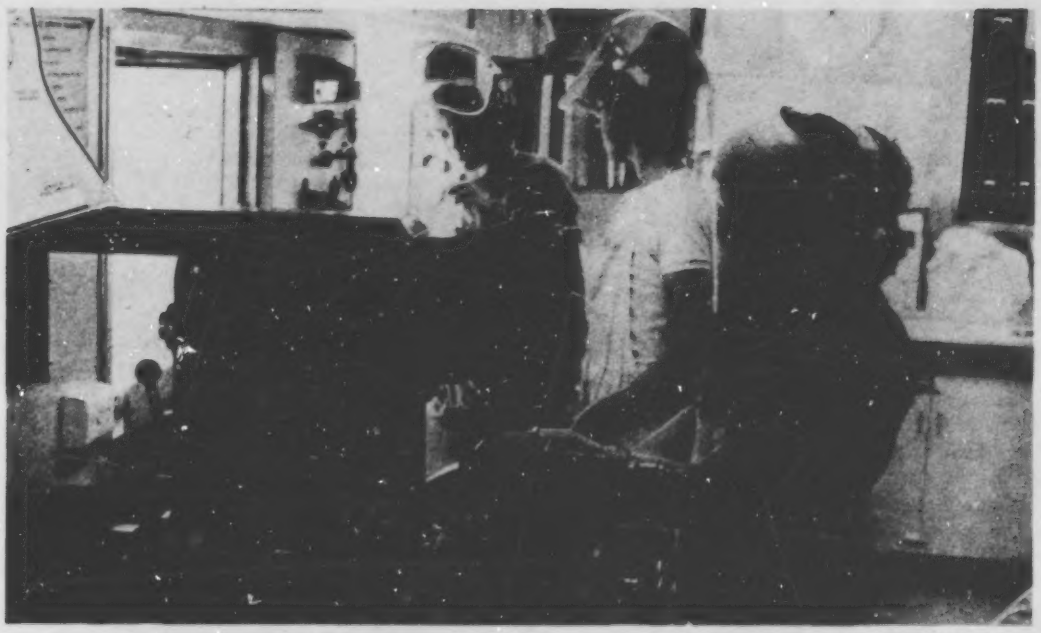
Figure 2: Manual Arts Unit Timetable at Surat State School and Secondary Department from 27 October to 6 November 1980

Time	Period	Monday 27/10/80	Tuesday 28/10/80	Wednesday 29/10/80	Thursday 30/10/80	Friday 31/10/80	Monday 3/11/80	Tuesday 4/11/80	Wednesday 5/11/80	Thursday 6/11/80
9.40	1	PREPARATION AND MAINTENANCE								
10.20	2	9–10	9–10	9–10	9–10	9–10	9–10	9–10	9–10	9–10
11.00	3	9–10	9–10	9–10	9–10	9–10	9–10	9–10	9–10	9–10
11.10	MORNING RECESS									
11.50	4	9–10	9–10	9–10	9–10	9–10	9–10 10 Girls	9–10 10 Girls	9–10 10 Girls	9–10
12.30	5	9–10	9–10	9–10	9–10	9–10	9–10 10 Girls	9–10 10 Girls	9–10 10 Girls	9–10
1.40	LUNCH BREAK									
2.20	6	9–10	9–10	7	9–10	9–10	9–10	9–10	7	9–10
3.00	7	9–10	9–10	7	9–10	9–10	9–10	9–10	7	9–10
Evening									Open Night	

Table 5: Project by Subject Area, Level Used and Skill

No.	Name of Project	Subject Area			Level Used			Skills Involved																							
		Woodwork	Metalwork	Plastics	Primary	Secondary	Adults	Brushing	Marking Out	Sawing	Cutting	Filing	Planing	Drilling	Folding	Screwing	Nailing	Riveting	Gluing	Sanding	Painting	Polishing	Heat Bending	Heat Forming	Soldering	Jointing	Hot Wire Burning	Turning	Thread Cutting		
1	Table Tennis Bat	•			•			•		•		•					•		•	•	•						•				
2	Boomerang	•			•			•		•		•								•	•						•				
3	Tin Box		•		•				•		•				•			•			•										
4	Coat Hanger		•	•	•			(Plastic covering of wire, wire forming)																							
5	Desk Set			•	•				•	•		•		•						•		•	•								
6	Pencil Rack	•			•				•	•				•						•	•						•				
7	Tea Pot Stand	•			•				•	•			•			•			•	•	•										
8	Letter Rack I		•		•				•			•			•						•					•					
9	Calendar	•		•	•	•		•				•								•	•	•	•				•				
10	Cutting Board	•			•	•		•		•		•								•	•						•				
11	Peanut Dish			•	•	•			•	•		•								•		•	•								
12	Dust Pan		•		•	•			•		•				•			•			•										
13	Egg Cup			•	•	•			•	•		•		•								•	•								
14	Letter Rack II			•	•	•			•	•		•							•	•		•	•								
15	Name Board	•			•	•		•		•		•		•						•	•						•				
16	Pencil Case		•		•	•			•		•				•						•										
17	Plumb Bob		•		•	•			•	•				•								•						•	•		
18	Pot Stand	•			•	•			•	•			•							•	•			(Embossing)							
19	Scalloped Dish			•	•	•			•	•		•										•		•							
20	Scone Cutter		•		•	•			•		•				•										•						
21	Square Dish			•	•	•			•		•	•										•		•							
22	Cake Slice			•		•		•		•		•		○					•			•	•								
23	Cake Tin		•			•			•		•				•							•			(Wiring)						
24	Coasters			•		•			•	•		•										•		•							
25	Door Stop	•				•		•		•		•					•		•	•		•					•				
26	Fig Leaf	•			•	•		(Varnishing, staining, spoke shaving, band sawing, routing)																							
27	Fish Scaler	•	•			•			•	•		•		•	•	•				•	•										
28	Money Box		•	•		•			•	•		○		•		•	•		•	•	•	•		•			•				
29	Camping Stool	•				•	•		•	•				•					•	•	•	•	(Rope lacing, eyeletting)									
30	Car Jack Stand		•			•	•		•			•		•							•	(Oxy and arc welding)									
31	Carry All		•			▪	•		•		•				•						•										
32	Clock			•		•	•	•		•		•		•					•			•									
33	Keyboard	•				•	•		•	•			•			•			•	•	•					•	•				
34	Meat Mallet		•		•	•	•		•	•				•								○	(Milling)					•	•		
35	Pudding Bowl			•		○	•		•	•												•		•							
36	Rolling Pin	•				•	•													•								•			
37	BBQ Tools		•			•	•		•	•		○		•				•				•	(Bending)								
38	Sandwich Tray	•			•	•	•		•	•		•	•			•	•		•	•	•						•				
	TOTALS	15	14	13	24	30	10	8	27	25	8	20	4	13	8	4	5	3	10	18	19	17	6	5	3	2	9	4	2		

Making Wire Coat Hangers.



A Pupil at Metalwork.

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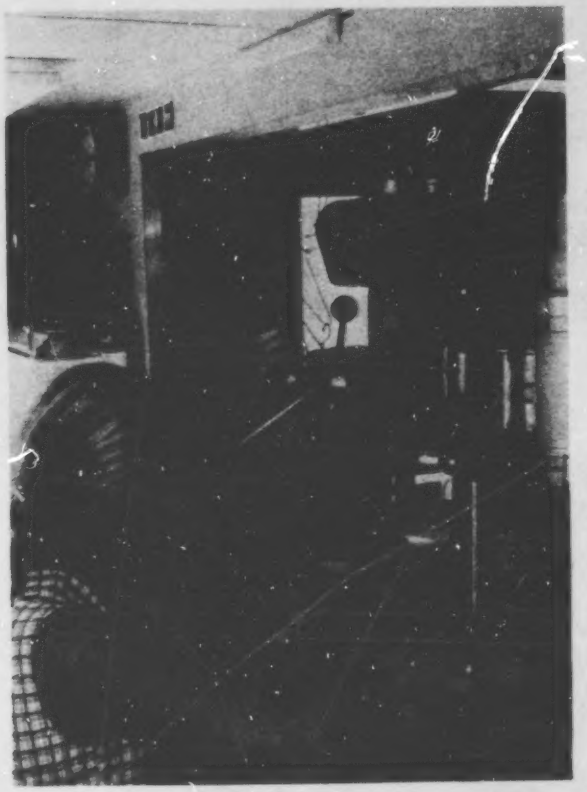
In relation to Adult Evening Classes, participants are allowed a wide choice of activities, and other projects undertaken have included:

- coffee tables;
- book shelves;
- wood turning;
- chairs;
- chessboards; and
- saw horses.

From an analysis of the Unit's records, it proved possible to calculate the number of pupils successfully completing each project during 1978, 1979 and 1980. These figures are presented in Table 6. (They do not include Blackall and Barcaldine, for which no records were available.)



Pupils Using a Drill Press.

It will be observed that the most commonly completed projects were the Calendar, the Peanut Dish, the Dust Pan and the Cutting Board. If this table is read in conjunction with Table 5, the skill needed by each group of pupils may be ascertained. Thus in completing the calendar, 359 pupils worked in both wood and plastic, practising the skills of sketching, filing, sanding, painting, polishing, heat bending and hot wire burning. For the 303 pupils who completed the metal dust pan the skills of marking out, cutting, riveting, folding and painting were involved. The skills practised by other groups can be similarly read-off. The extent to which these would have been new skills is considered in Chapter 4, in the discussion relating to pupils' previous experience in woodwork, metalwork and plastics.

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Table 6: Numbers of Pupils Successfully Completing Projects During 1978, 1979 and 1980

Project	Level			Project	Level		
	Prim.	Sec.	Total		Prim.	Sec.	Total
1. Table Tennis Bat	84	–	84	20. Scone Cutter	56	24	80
2. Boomerang	9	–	9	21. Square Dish	59	35	94
3. Tin Box	39	–	39	22. Cake Slice	–	9	9
4. Coathanger	106	1	107	23. Cake Tin	–	14	14
5. Desk Set	28	–	28	24. Coasters	–	102	102
6. Pencil Pack	8	–	8	25. Doorstop	–	9	9
7. Tea Pot Stand	70	–	70	26. Figleaf	41	29	70
8. Letter Rack I	25	1	26	27. Fish Scaler	–	22	22
9. Calendar	307	52	359	28. Moneybox	–	21	21
10. Cutting Board	88	187	275	29. Camping Stool	–	39	39
11. Peanut Dish	201	105	306	30. Car Jack Stand	–	29	29
12. Dust Pan	135	168	303	31. Carry all	–	33	33
13. Egg Cup	126	36	162	32. Clock	–	12	12
14. Letter Rack II	66	42	108	33. Keyboard	–	21	21
15. Name Board	133	6	139	34. Meat Mallet	41	23	64
16. Pencil Case	37	57	94	35. Pudding Bowl	–	25	25
17. Plumb Bob	–	8	8	36. Rolling Pin	–	17	17
18. Potstand	140	6	146	37. BBQ Tools	–	33	33
19. Scalloped Dish	16	50	66	38. Sandwich Tray	13	107	120

Other Activities During School Visits

In addition to their daily duties, lesson preparation, routine maintenance of tools, and on some occasions adult evening classes, other responsibilities devolving upon Unit staff during school visits have included:

- administrative tasks associated with Unit operations;
- day to day cleaning and maintenance of the mobile workshops and prime movers; and
- a variety of unpredictable chores, depending upon the particular needs at each location.

Items within the last category have generally been associated with repairs to school equipment or buildings.

To give some indication of the range and variety of these additional tasks, the list of 'jobs done' at Alpha during February 1980 is reproduced below:

1. Pressure pump to workshop sink rewired and tested.
2. Filters to the five workshop air-conditioners cleaned and refitted.
3. Seat and mattress covers in accommodation washed.
4. Running gear of workshop trailers greased.
5. Filing cabinet in metalwork van repaired.
6. Scissors for pre-school sharpened.
7. Working table built for belt sander.
8. Door to clothes cupboard in accommodation repaired.
9. Batteries and plugs maintained and generator oil changed.
10. Students lockers panel beaten and repaired at principal's request.
11. 'Bank book box' for school banking made.

12. Power outlets to both generators modified.
13. Locking arrangement on school LP gas store repaired.
14. Workshop air-conditioner filters cleaned.
15. Steel stock oxy-cut for storage.

Commenting on these additional duties, Unit staff recognised that their skills were in much demand in many small communities and that consequently an element of community service was not to be seen as inappropriate. They also recognised the public relations value of such activities.

A further demand on the time of Unit staff noted by the author during field observation, arises from the social expectations of country teachers who naturally welcome the company of other professionals.

Pupil Using a Router.

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CHAPTER 4

REACTIONS TO THE VISITS OF THE MOBILE MANUAL ARTS UNIT

Sources of Information

In the course of school visits during 1978, 1979 and 1980, questionnaires were distributed to principals, teachers and pupils at seven selected schools to sample their opinions about the Unit's operations. Copies of these questionnaires are reproduced in Appendices E, F and G respectively.

As a result of this survey, responses were supplied by 238 pupils, 12 teachers and six principals. A breakdown of the year (grade) and sex of the pupil respondents is supplied in Table 7.

Table 7: Numbers of Pupil Respondents by Year and Sex

Year (Grade)	Male	Female	Totals
5	3	5	8
6	19	22	41
7	26	22	48
Primary Totals	48 (20%)	49 (21%)	97 (41%)
8	22	20	42
9	19	39	58
10	11	30	41
Secondary Totals	52 (22%)	89 (37%)	141 (59%)
Grand Totals	100 (42%)	138 (58%)	238 (100%)

It will be noted that slightly more than half (58 per cent) of the respondents were female and that an almost identical proportion (59 per cent) were secondary students.

Details of the 12 teachers who completed questionnaires are shown in Table 8.

Table 8: Numbers of Teacher Respondents by Level and Sex

Sex	Primary	Secondary	Totals
Male	3	2	5
Female	2	5	7
TOTALS	5	7	12

The respondents' length of teaching experience ranged from 1 to 11 years, with an average of 3.5 and a mode of 2, suggesting that on this variable they were reasonably representative of teachers in the type of school visited by the Unit.

In regard to the principals who completed questionnaires three were from primary schools without secondary departments and three were from primary schools with secondary departments.

Despite the relatively small numbers involved in the staff samples, there is no reason to believe that their opinions were in any way atypical. However, as an additional safeguard, in-depth interviews were held with principals and teachers at a further six schools, and two periods of participant observation were undertaken. These periods of observation provided extensive opportunities for discussion with pupils attending the Unit.

The findings of the surveys, the interviews, and the participant observation are presented in the remaining parts of this chapter, supplemented where appropriate with other recorded comments and opinions.

Pupils Previous Experience in Woodwork, Metalwork and Plastics

Pupils were asked what, if any, experience they had had in woodwork, metalwork or plastics prior to the arrival of the Mobile Manual Arts Unit. The answers of the 238 respondents are summarised in Table 9.

Table 9: Numbers of Pupil Respondents with Previous Experience in Woodwork, Metalwork or Plastics

Previous Experience		Primary Pupils	Secondary Students	Total	Total Females
Subject	Type				
Woodwork	Home	54 (56)	44 (31)	98 (41)	41 (30)
	School	26 (27)	27 (19)	53 (22)	18 (13)
	None	17 (18)	70 (50)	87 (37)	79 (57)
	TOTAL	97 (100)	141 (100)	238 (100)	138 (100)
Metalwork	Home	15 (15)	22 (16)	37 (16)	8 (6)
	School	5 (5)	21 (15)	26 (11)	4 (3)
	None	77 (79)	98 (70)	175 (74)	126 (91)
	TOTAL	97 (100)	141 (100)	238 (100)	138 (100)
Plastics	Home	5 (5)	4 (3)	9 (4)	1 (1)
	School	5 (5)	19 (13)	24 (10)	3 (2)
	None	87 (90)	118 (84)	205 (86)	134 (97)
	TOTAL	97 (100)	141 (100)	238 (100)	138 (100)

N.B. To facilitate comparison, percentages are shown in brackets.

In the case of primary pupils, there is no reason to believe that the sample is in any way atypical. However, in the case of secondary students, since respondents were drawn largely from schools selected because of a lack of manual arts facilities, their responses would certainly not be representative of country students as a whole.

The answers revealed that, prior to visiting the workshops, the majority of these respondents had received no previous experience in manual arts at school. Thus only 22 per cent of pupils claimed previous school experience in woodwork, although 41 per cent claimed previous experience at home. For metalwork, the figures were 11 per cent and 16 per cent respectively, and for plastics 10 per cent and 4 per cent respectively. In each case the figures for female pupils were noticeably lower.

It thus appears that for most of these pupils the MMAU was providing a novel experience and the opportunity to learn a new range of skills. Even in the case of woodwork, where 63 per cent of pupils claimed to have had previous experience at home or at school, a high proportion of these were primary age pupils, whose previous experience was likely to have been of a fairly basic or simple nature.

In the case of secondary students from schools with manual arts facilities, clearly the level of previous experience would be much higher. In these cases, projects are chosen by the MMAU which involve skills, such as welding or the use of power tools, unlikely to have been encountered previously.

Effect of Unit Visits on Pupil Attitudes and Motivation

Both teachers and principals were asked if the workshops had had any significant effect on pupil attitudes, interests or behaviour.

Eight teachers answered positively, three felt that there had been no marked change in pupils, and one was undecided. Those teachers who answered positively recognised the following benefits:

- General increase in interest/motivation
- Increased interest in related activities
- Improvement in behaviour
- Improvement in manual skills.

Five of the six principals who also considered that the visit had had a significant positive effect on pupils. The following effects were identified by these five principals:

- Improved attitude to school
- Improved attitude to manual arts and craft
- Improved self-discipline
- Improved self-confidence
- Improved approach to school visitors
- Pride in achievement (especially low-achievers)
- Broadening of outlook.

It may be noted that the principals identified a somewhat wider variety of effects than the teachers. Of particular interest is their reference to 'pride of achievement' especially in connection with low achievers, since this was an effect which received considerable emphasis in the course of interview with both teachers and principals. From the interviews, it became apparent that for some informants this was the most significant of the effects observed.

Overall, it was apparent that the majority of principals and teachers perceived the Unit's visit to have had a beneficial effect upon pupil attitudes and motivation.

The Effect of Unit Visits on School Teaching Programs

Teachers and principals were asked whether the Unit's visit had adversely affected the school's teaching program.

Seven of the 12 teachers considered that the Unit's visit had not adversely affected the school program. The other five considered that it had, by disrupting the timetable, by using valuable time and by making revision for examinations more difficult. These teachers did, however, feel that the beneficial effects more than compensated for the disadvantages.

Of the six principals, four considered that no detrimental effects on the school teaching program had resulted from the Unit's visit and one did not answer this question. The remaining principal judged the visit to have been detrimental in terms of loss of time and disruption to the teaching schedule. This respondent did, however, indicate that the benefits of the visit had outweighed any such detrimental effects.

In summary, then, the majority of teachers and principals judged that Unit visits had not adversely affected school teaching programs and even the minority who disagreed conceded that the benefits had adequately compensated for any detrimental effects. Records of interviews and discussions supported these conclusions.

Teachers and principals were also asked whether the Unit visit had produced, or was expected to produce, any beneficial effect on teaching programs.

Teachers were equally divided on this question, with six answering positively and six negatively. Teachers who answered positively considered that the Unit's visit would benefit the teaching program through:
- broadening the school curriculum;
- increasing the pupils' experience of practical activities;
- whetting the appetite of primary pupils for secondary manual arts courses; and
- encouraging integration of the school curriculum.

One principal did not answer this question, but the remaining five all expected the Unit's visit to have a beneficial effect on the teaching program. Such benefits were perceived by principals to include:
- an increased parental interest in the school's activities;
- the acquisition of new skills by teachers;
- the introduction of new approaches to the curriculum; and
- pupil awareness that careful work can produce good results.

Principals were also asked if teaching staff had been able to benefit from the workshops.

In view of the overlap between the answers to that question and those to the question above, it will be appropriate to consider their responses here.

Four of the six principals considered that their teaching staff had benefited from the visit of the Unit. Examples of positive effects included the acquisition of skills, a new relationship with students, and the stimulus provided for follow-up work.

Interview records indicated that both principals and specialist teachers valued the contribution which contact with Unit staff could make to the professional development of manual arts staff in country schools. In particular, the teachers welcomed the opportunities to:
- discuss matters of professional interest;
- observe lessons by other specialists; and
- extend their own knowledge and skills.

In secondary departments, where there is normally only one manual arts teacher, this contact appears to be valuable in reducing the sense of professional isolation.

Overall, both survey and interview data suggested that the Unit visits were perceived to benefit the teaching program in schools in a number of important ways, often indirectly through their influence on teachers.

The Length and Frequency of Visits

Pupils were asked to comment on the length of time which they had spent in the workshops, and their responses are shown in Table 10.

It may be noted that none of the students considered that the time spent in the workshops had been 'too long', whereas 85 per cent considered that the time was 'not long enough'. It is also noticeable that the percentage of male pupils who considered that the time was insufficient rose from 77 per cent at the primary level to 96 per cent at the secondary level, suggesting an increased interest on the part of the older boys.

Overall, it seems clear that the vast majority of pupil respondents desired more time in the workshops. Discussions with pupils in the course of participant observation supported this conclusion.

Both adults attending evening classes and school principals were asked how often they thought the Unit should visit their area. The responses received are indicated in Table 11.

Table 10: Pupil Views Concerning Length of Time Spent in the Workshops

Views Expressed	Primary		Secondary		Totals
	Male	Female	Male	Female	
Too long	0	0	0	0	0
Just right	11 (23)	7 (14)	2 (4)	14 (16)	34 (14)
Not long enough	36 (77)	43 (86)	52 (96)	72 (83)	203 (85)
No answer	0	0	0	1 (1)	1 (1)
TOTALS	47 (100)	50 (100)	54 (100)	87 (100)	238 (100)

N.B. To facilitate comparison, the figures in brackets show the percentages of responses in each category.

Table 11: Principals' and Adults' Views on How Often the Unit Should Visit an Area

Time Interval	Number of Respondents	
	Principals	Adults
Once per year	2	5*
Twice per year	1	4
Three times per year	1	4
Every two months	–	1
No answer	2	–
TOTALS	6	14

* Three of these five adults requested visits lasting several months, once a year.

Judging from these responses, one mobile unit would be insufficient to meet the overall demand for visits. The response also revealed a demand for longer visits to secondary schools which have no manual arts facilities of their own. The level of local concern about this lack of facilities has also been expressed in a number of representations to the Department of Education and to the Minister. As explained in Chapter 2, the 1982 itinerary has provided for longer visits to the three secondary schools which have no manual arts facilities and this has enabled the Unit to provide a course to Board of Secondary School Studies requirements for students at those schools. The new itinerary has, however, necessarily reduced the availability of the Unit to pupils in other centres.

Following this change of itinerary, some concern has been expressed by regional committee members about the utilisation of the Unit's facilities. One senior educationist who had visited the Unit expressed this concern in the following words:

"One unfortunate consequence of the extended course is the restriction on the use of special equipment. The following equipment was used for the first six weeks of the program but will not be used again for the remainder of the year:

Arc welding facilities (3 welders); oxy acetelline facilities (2 units); horizontal milling machine; bench grinder; angle grinder; pan brake; band saw; jig saw; hand routers; power planer; and belt sander.

In addition, there will be limited use of the Unit's metal lathe; wood lathe and drill press.

Because of the extended stays in three centres the two prime movers and the generating units will be idle for most of the year.

In order to complete the course in 1983 the Unit will need to spend 11 weeks in each of the three nominated centres. The results are obvious. Other centres will have no access to the Unit, the special equipment, provided originally to supplement equipment available in Manual Arts Centres, will have little or no use and the number of students benefitting from the program will be considerably reduced."

Fortunately, it is now envisaged that manual arts facilities will be installed at both Alpha and Tambo schools during the 1983 school year. In addition, investigations are being conducted to ascertain whether alternative provisions can be made for the secondary students at St John's School, Roma. If these plans eventuate, the need for prolonged visits devoted to Board of Secondary School Studies course requirements should be obviated.

Perceptions of the Value of Time Spent in the Workshop

Pupils were asked whether the time spent in the workshops was worthwhile and the reason for their answer. All 238 pupils replied in the affirmative and supplied the reasons presented in Table 12.

Table 12: Pupil Perceptions of Why the Time Spent in the Workshops was Worthwhile

Reason	Primary	Secondary	Total
Opportunity to learn skills and use tools	44	57	101
Opportunity to make useful things	16	12	28
Sessions were enjoyable	17	18	35
Provided a new experience	21	18	39
Provided a valuable experience	9	25	34
Increased self-sufficiency	–	6	6
Other	13	10	23
No answer	5	6	11
TOTALS	125	152	277

Because a number of pupils supplied more than one reason, the total number of answers exceeded the total number of pupils.

From the pattern of responses, it clearly emerged that the most popular reason related to the opportunity to learn skills and to use tools. The level of interest and motivation apparent during the workshop sessions observed at Tambo and Surat certainly supported this view.

Participant observation also supported the view that pupils enjoyed the time which they spent in the workshop.

The Reaction of Girls to the Workshop Sessions

To the question concerning the involvement of girls in workshop activities, the five principals who responded gave comments such as:

"The girls were the most responsive. They co-operated well and enjoyed this new learning experience."

"No problems at all were encountered. Workmanship of girls was every bit as good (and sometimes better) than boys. As they were treated equally, no reactions were noted."

"At first uneasy, but after the first lesson delighted to be taking part."

These positive comments correlated closely with the responses of class teachers to a similar question and also to the responses of female pupils to general questions on the pupil questionnaire. In particular, as previously indicated, all 138 female pupil respondents judged their time in the workshops to have been worthwhile.

Relating the Workshop Experience to the School Curriculum

In responding to the survey, seven teachers claimed that they were able to give their students instruction related to the Unit's visit. In three cases this involved the use of the preworkshop papers, in two cases it was achieved through related work in other subjects and in the other two cases through following up the manual arts projects.

Of the five teachers unable to integrate the visit with their normal lesson program, two gave as their reason a lack of time and opportunity. Of the other three, one gave as a reason personal lack of teaching experience, another considered there was nothing in common between the manual arts activities and the school program, and the third judged that the coverage by the Manual Arts Unit had exhausted the possibilities of each topic.

The response pattern of the small number of respondents did not reveal any significant differences between primary and secondary teachers. In relation to this same topic, pupils were asked whether anything learnt in specified school subjects had assisted them during their time in the workshops and were asked to give examples in support of their answers. Their responses are summarised in Table 13 below. Because the questionnaire issued to Tambo pupils did not include this question, the number of respondents on this occasion was 198. The nature of the responses suggested that school subjects were perceived to have assisted through either the knowledge or the skills involved in their study. Consequently, this dichotomy was preserved in the table.

Table 13: Pupil Perceptions of Previous School Learning which Assisted Them During Workshop Sessions

Subject Area	Positive Responses (Subject Helpful)					Negative Responses (Not Helpful)	Not Answered
	Useful Knowledge		Useful Skills		Total		
	Primary	Secondary	Primary	Secondary			
Science	12	18	3	1	32	160	4
Geography	–	7	–	2	9	186	2
History	–	0	–	0	0	195	3
Social Studies	28	0	1	0	29	162	7
Mathematics	0	0	60	60	120	73	5

It will be noted that only in mathematics was previous learning perceived to have been helpful during workshop sessions by any large numbers of pupils. Skills such as measurement, drawing and calculations were seen as those most directly related to the workshop sessions, with primary and secondary pupils giving an equal weighting to this connection.

Apart from mathematics, small numbers of pupils saw their learning in science, social studies and geography as being useful to manual arts, particularly through providing knowledge about the properties and origins of some of the materials used. Also it was noticed during observation that members of the Unit staff did make some effort to relate their instructional sessions to other components of the school curriculum.

However, from the responses of both pupils and teachers, it appears that efforts to relate school subjects more closely to the workshop program could well receive greater emphasis.

Workshop Papers and Audio-Visual Materials

The range and content of the Workshop Papers have already been described in Chapter 3. The survey sought comments from both teachers and pupils about specific aspects of these papers and materials and, in addition, a critique was obtained from an experienced manual arts teacher with expertise in the design of curricular materials.

Answers concerning the usefulness of the papers were supplied by 218 of the 238 pupil respondents. Their replies are summarised in Table 14 below.

Table 14: Pupil Perceptions of the Usefulness of the Workshop Papers/Materials

Level	Pupil Response				
	Very Useful	Useful	Not Very Useful	Not Useful	Total
Primary	37	40	6	0	83
Secondary	35	59	29	12	135
TOTALS	72	99	35	12	218

Of the pupils who answered this question, 171 (78 per cent) judged the papers to be 'useful' or 'very useful'. Of the remainder, 35 (16 per cent) considered the papers 'not very useful', and only 12 (5 per cent) considered them 'not useful'. It may be noted that the negative responses came mainly from secondary students.

The most common reasons given by pupils for judging the papers 'very useful' or 'useful' were that they:

- provided information about tools and materials (92 pupils);
- created safety awareness (31 pupils); and
- prepared them for the visit (50 pupils).

Of the pupils who judged the papers 'not very useful' or 'not useful', 16 considered them unnecessary and 8 thought they were too much to read.

Discussions with both primary and secondary pupils during school visits reinforced the impression that, although they found the presentation somewhat monotonous, readability was satisfactory and the papers were reasonably easy to understand.

Of the 12 teacher respondents, 5 were unable to offer any comments as they had not used the papers prior to the visit. Each of the other 7 teachers answered all the questions about the workshop.

It will be noted that all 7 teachers offered positive comments about the usefulness of the papers and materials, particularly in relation to the preparation of pupils for the Unit's visit. Teachers found the papers valuable for preparing students, easy to use and generally useful. In relation to presentation, the only criticism related to the 'monotonous vocal presentation' in the tape accompanying the slides. The rest found the presentation clear, concise and readable. Content was generally well received by teachers, although 2 considered it to be excessive.

Opinions recorded during interviews supported the view that teachers generally considered the workshop materials to be useful, with a number of teachers commenting on the value of the booklets for reference purposes.

Specific questions concerning the booklets and the materials were addressed to a manual arts specialist, as mentioned above, and these questions together with his responses are reproduced in Appendix H.

In summary he noted the following inadequacies:

- The supplementary booklets are poorly illustrated compared with Books 1–4.
- The script with the slides is too detailed and wordy. A more simple and more general script is needed.
- The main problem with the booklets is the large number of new (to the primary student) terms and the lack of sufficient illustrations. For example mention is made of line sawing, back sawing and quarter sawing but no diagrams illustrate these points. In general the supplementary booklets need short, simple sentences and more illustrations.
- The booklets and slides have limited suitability for the non-manual arts teacher. It must be appreciated that numerous technical operations cannot be adequately explained by words and illustrations; demonstrations are needed.

In summary then, it appears that both pupils and teachers generally found the workshop papers and materials to be useful, although expert opinion identified several areas where improvement might be possible.

Pupils' Liking for Subjects Offered by the Unit

As a part of the survey, pupils were asked to indicate their liking for the various subjects offered by the Unit. Because of a change in the questionnaire, the 40 respondents at Tambo were asked to say which subject they liked best, whereas the other 198 respondents were asked to show their liking on a three-point preference scale. The responses to this latter question are summarised in Table 15 below.

Table 15: Pupil Ratings of Subjects on a Three-Point Preference Scale

Subject	Very Much			All right			Not Much				Totals
	Prim.	Sec.	Totals	Prim.	Sec.	Totals	Prim.	Sec.	Totals	No Answer	
Wood-work	64	107	171 (86)	14	11	25 (13)	2	0	2 (1)	–	198 (100)
Metal-work	42	46	88 (44)	23	50	73 (37)	14	16	30 (15)	7 (4)	198 (100)
Plastics	67	82	149 (75)	10	32	42 (21)	2	2	4 (2)	3 (2)	198 (100)
Graphics	13	5	18 (35)	13	7	20 (38)	5	9	14 (27)	–	52* (100)

* Graphics was only offered on two occasions, to a total of 52 pupils.

N.B. Figures in brackets show percentages for purposes of comparison.

It will be seen that three-quarters or more of the respondents liked woodwork and plastics 'very much', whereas less than half rated metalwork and graphics that highly. It is also important that graphics was the least popular subject. Subjects liked most and least by the pupils at Tambo are shown in Table 16.

It will be seen that woodwork was again the most popular subject and graphics the least. In recognition of the low popularity of graphics, this subject was dropped from the Unit's program during 1979, although instruction in relevant drawing skills is still incorporated in practical sessions as the need arises.

The most common reasons given by all respondents for liking particular subjects were related to:

- the learning of new skills (particularly woodwork);
- the satisfaction of making something; and
- enjoyment of the work (particularly woodwork and plastics).

Table 16: Subjects Liked Most and Least by Pupils at Tambo

Subject	Liked Most			Liked Least		
	Primary	Secondary	Total	Primary	Secondary	Total
Woodwork	16	17	33 (49)	–	–	–
Metalwork	–	14	14 (21)	2	3	5 (13)
Plastics	1	16	17 (25)	1	1	2 (5)
Graphics	–	3	3 (4)	14	10	24 (60)
No Answer	–	–	–	–	9	9 (23)
TOTALS	17	50*	67	17	23	40 (100)

* The actual number of secondary respondents was 23, but many students nominated more than one subject.

N.B. The figures in brackets are percentages.

The most common reasons for not liking subjects were that the subject was too difficult (particularly metalwork) or that it was not interesting.

Participant observation of Unit sessions confirmed that most pupils enjoyed their lessons in woodwork, plastics and metalwork and were proud of the results they achieved.

Pupils Liking of Individual Projects

Pupils were asked which three projects they liked making most, which three projects they liked least, and to give reasons for their answers. Because different projects were attempted by different groups of students, a simple aggregation of responses was inappropriate. However, by calculating the percentage of pupils attempting a project who nominated it as one of those they liked most, it was possible to identify the more popular projects.

On this basis, the cutting board was by far the most popular project attempted by both secondary and primary pupils. Many primary pupils also liked the calendar project, whereas secondary students rated the sandwich tray and the camping stool highly. The high popularity of woodwork projects may well explain the high popularity of this subject, as described in the previous section.

Because of the nature of the question, the reasons given for liking projects could not be linked with any particular project. However, the responses did reveal that the most common reasons were either that the pupils liked the product or had enjoyed making it. The next most common reason was that the project had proved relatively easy to complete.

In regard to the question about least-liked projects, 20 per cent of the respondents answered that they liked them all. The remaining responses indicated that two metalwork projects, the dustpan and the scone cutter, were the least popular. This finding also appears to agree with subject preferences reported in the previous section.

Reasons for not liking projects appeared to be related to difficulties in handling the tools and materials or to lack of interest in the finished product.

Present and Future Relevance of Unit Programs

In response to a question concerning the likelihood of their attempting manual arts projects at home on the basis of experience gained through the workshop, 180 pupils (76 per cent) indicated that they would attempt further projects. Of this figure, 73 were primary and 107 were secondary. In three-quarters of these cases, the responses indicated that the pupils intended to attempt similar projects to those practised with the Unit.

Of the pupils who did not intend to attempt projects at home, some 40 (70 per cent) gave as their reason a lack of suitable tools or materials. Only 5 per cent of respondents felt that they would lack the necessary skills.

Pupils were also asked whether they thought that the things they had learnt in the workshops would help them later on in life. The response of both secondary and primary pupils to this question was overwhelmingly positive, with more than 90 per cent of each group answering in the affirmative.

From the pattern of responses outlined above, it would appear that most pupils perceived the manual arts program as having both present and future relevance to their everyday lives.

Views of Teachers Participating in Workshop Sessions

Eight of the 12 teachers who completed questionnaires had accompanied their classes during workshop sessions. Of these, six had adopted the role of participant observers and two had directly assisted Unit staff.

Commenting on the concept of the Mobile Manual Arts Unit, six teachers commended the program and the activities offered to pupils. Three teachers commented favourably on the staff and facilities, one considered the Unit was an excellent way of bringing manual arts to small country towns and another valued the workshop's contribution to the development of students' practical skills.

In relation to the benefits expected to flow from the workshops, six teachers mentioned life and leisure interests, and four referred to the curriculum enrichment provided by the Unit's visit. Two teachers also judged that the workshop experience would be of assistance to pupils in making vocational decisions.

Only three of the teachers identified shortcomings in the program and in each case these were related to the limited amount of total contact time possible during the Unit's relatively short visit to each school.

Of the four teachers unable to accompany their classes to the workshops, three were disappointed at the loss of opportunity to participate with their pupils in learning manual arts skills, whereas one expressed a lack of interest in the project as a whole.

Improving the Effectiveness of Unit Visits

Teachers were asked to recommend any changes to the program that might better prepare teachers and students for Unit visits. Only five of the 12 teacher-respondents answered this question. Of these five, two felt that the existing preparation was adequate, one suggested a pupil research sheet, one a film demonstrating the use of tools and one that class teachers needed a more responsible role to increase their involvement in the program.

In regard to improving the effectiveness of the workshops, only two teachers offered suggestions, with one recommending longer visits and the other the inclusion of simple motor repairs in the program.

Of the three teachers who expressed some kind of follow-up service after a visit, two suggested some form of worksheet for students and the third recommended a report by Unit staff on student progress.

Overall Impressions and General Comments Concerning the Mobile Manual Arts Unit

All except 13 pupils offered comments concerning their overall impressions of the Unit. These comments are summarised in Table 17. Because some pupils offered more than one comment, the total number of comments exceeded the total number of pupils.

Table 17: Pupils' Overall Impressions of the Unit

Comment	Primary	Secondary	Total
The experience was enjoyable	13	17	30
The experience was valuable/worthwhile	13	20	33
Wanted more time with the Unit	8	34	42
Unit well staffed/equipped/organised	7	38	45
Unit provided a new opportunity	7	26	33
Had learnt useful skills	5	21	26
Unit judged to be 'good'	28	41	69
Other	6	22	28
No Answer	11	4	15
TOTALS	98	223	321

Despite the fact that Table 10 showed that 85 per cent of pupils wanted more time with the Unit indicating a highly favourable attitude, wanting more time ranked only third in the list of overall impressions of the Unit.

It will be seen that the vast majority of the comments were of a positive nature, and two of the more detailed responses are reproduced below by way of illustration.

"My impression of the workshops was that they were small but ingenious – the way the large equipment was situated in the shops – and that there was also a lot of storage space. The shops were well-equipped." (13 year old boy)

"My impression is that it's very helpful and enjoyable. I also think that it helps country kids in small schools where they haven't got them (workshops) and also for girls who wouldn't normally bother with the subject. The teachers were a great help also. It gave me an idea of using machinery." (15 year old girl)

A few pupils offered critical comments relating to lack of time or lack of space in the workshops, but these represented less than three per cent of the total number of comments.

Of the 12 teachers who recorded their general impressions of the Unit, 7 supplied remarks of a general commendatory nature. The remaining comments included two praising the Unit staff, one praising the program and two requesting further visits.

All of the five principals who supplied their impressions of the Manual Arts Unit commented favourably on its operations and effectiveness. Three principals commended the professional expertise and attitudes of the staff and three praised the high educational value of such a service. Other aspects of the program that principals mentioned were the variety of skills learnt, the quality of the resulting projects and the importance given to safety procedures.

Examples of the comments supplied by principals are given below:

"I feel that this could be extended to encompass other areas of the State. Very satisfying."

"Procedures and discipline were good. The whole concept of the vans is excellent."

"Essential for children in these isolated areas."

Parent and Community Reaction to the Unit

The responses of principals clearly indicated that they perceived the Unit to have been very well received by parents and other members of the community. Three principals referred to the high level of interest in adult classes and two to a desire for an extension of the service. Two examples of the principal's comments are given below:

"Extremely positive. They were grateful that their children were given this opportunity."

"A lot of interest and gratitude to the Unit's teachers and organisers. Nothing but praise."

Adults attending evening classes were also asked to comment on the value of the workshops for schools. Of the 14 respondents, 13 answered this question. The general value of the experience and the learning of useful skills were each mentioned by four respondents, while three referred to pupil enjoyment and satisfaction. Four of the seven respondents from Alpha pointed out that this was the only manual arts instruction received by students at the secondary department there.

Each of the PCAP Local Advisory Committee has also offered general comments about the Unit. The following comment from the Cunnamulla LAC is representative of these.

"Having had this Unit based in Cunnamulla for the first time very recently, there were many comments forthcoming from persons associated with the Education scene in Cunnamulla.

It was agreed that this Unit certainly fulfills a need to enrich children in remote areas.

Adults who attended classes at the Unit had much praise also, but it was queried whether this should be considered as PCAP is directed at children."

"For the Unit to be used to supplement and complement courses for Years 8, 9 and 10 students at a school with a Manual Arts Department, this can be fully justified as a 'pre-employment' program because students receive instruction in programs very relevant to occupation of this area." (Cunnamulla LAC)

Overall five of the LACs supplied strongly positive comments, two were doubtful about whether primary children should participate in the program, and two advocated sharing the Unit with other regions. This latter point was pursued at a meeting of the South-West Regional Committee on 29 November 1980, when the following resolution was passed:

"That the Mobile Manual Arts Unit be lent to the North-West for a time as negotiated between the Regional Directors North-West and South-West and the State Secretary and subject to the demands of our own region."

The willingness of regional committees to share such initiatives may become increasingly important with the extension of PCAP into new areas of the State.

CHAPTER 5

REACTIONS OF ATTENDING ADULTS TO EVENING CLASSES SUPPLIED BY THE UNIT

Of the 14 adults who completed questionnaires (see Appendix L), seven attended evening classes in Alpha and seven in Bollon. In view of the relatively small number of respondents, results must clearly be treated with caution. However, it was possible, during field work, to cross check the answers to a number of questions with adults in other centres.

Information Concerning Respondents

Of the 14 respondents, 10 were female and four male. Five were less than 30 years of age, six between 30 and 45 and three over 45. With regard to occupation, five of the respondents worked in schools, three on the land, two in service industries and two were housewives. Two respondents did not answer this question.

None of the respondents had had any previous experience in plastics. Although none of the women had done any metalwork previously, three of the men had done metalwork before at home and two at school.

Slightly over half of the respondents possessed previous woodworking experience. Two of the men and four of the women had gained this experience at home and a further two men had done woodwork at school.

It may be noted that none of the women had practised any of these skills at school.

Length of Time Spent in Workshops

At Bollon, respondents had, on average, spent about 5 hours in the workshops, whereas for Alpha the figure was about 11 hours. This difference is related to the fact that the Unit stayed two weeks in Bollon and four in Alpha. Despite the longer time at Alpha, however, six of the seven respondents considered that the time was inadequate. Of these six, three commented on the difficulty of completing their projects in the time available and three complained that the number of adults participating slowed them down. The sole respondent who judged the time at Alpha to have been sufficient remarked on the 'good individual help' received.

At Bollon, five of the respondents judged that the time had been sufficient, as they had successfully completed their projects, although one would have welcomed the chance to do more. Of those who found the time insufficient, one had only managed to attend one session, and the other had only managed two sessions and wanted to do more.

At Bollon, it appeared that those participants who had attended most or all of the sessions were satisfied with the length of time, whereas at Alpha even those who attended all sessions were dissatisfied. Since this dissatisfaction seems to have been at least partly attributable to the larger overall number of participants at Alpha, it appears that there may be a need to restrict the size of classes. Unfortunately, no record of the actual numbers attending at these centres was available.

Discussions with other adults confirmed the view that many participants would have welcomed the opportunity to spend more time in the workshops, but fully understood that the Unit had to be shared with other areas.

Reasons for Attending the Workshops and the Value of the Experience

Commenting on why they attended the workshops, 10 respondents, including all four men, gave as their reason the desire to gain new skills. Of the other four, three said that they attended out of interest or curiousity and one that she wanted to make something.

Asked whether the workshop experience had proved worthwhile, all 14 respondents answered in the affirmative. Their reasons (with the numbers of respondents) were:

- learnt new skills (four)
- gained new knowledge (four)
- chance to use machinery (two)
- enjoyed it (two)
- chance to make things (one)
- time was well spent (one).

Subjects and Projects Chosen

Respondents were asked which subjects they had practised and how useful they had found the experience.

Of the 11 who had practised woodwork, seven supplied comments, all of which were positive. Welding was judged useful or very useful by four respondents, with the fifth offering no comment. Of the two other respondents who had done metalwork, one valued the opportunity to use a lathe, while the other offered no comment.

Six respondents had worked with plastics, of whom three judged the experience useful, two remarked on the need for special equipment and one offered no comment.

Thirteen of the 14 adults responded to the question about what they had made in the workshops and their answers included a wide variety of projects. These are listed below, with number of students attempting each project shown in brackets:

- Clock (4)
- Wooden Dish (3)
- Plastic Bowl (2)
- Stool (21)
- Plate (1)
- Parts for Trailer (1)
- Ashtray (1)
- Picture Frame (1)
- Keyrack (1)
- BBQ Set (1)
- Dustpan (1)
- Coffee Table (3)
- Chopping Board (1)
- Welding only (1)

Respondents were also asked how they had chosen the projects they attempted and how satisfied they were with the range of choice available. Of the 10 adults who responded to the former question, four chose items which they thought would be useful, two arrived at their choice through discussion with Unit staff and three chose items related to their skills and the time available. The remaining reason given was 'other groups full up'.

Concerning the range of choice, nine respondents were very satisfied, two were reasonably satisfied and one did not answer. Of the remaining two, one had hoped for art and pottery, whereas the other had been unable to do woodwork because the group was full.

Relevance and Impact of the Classes

Eight adults considered that, following the Unit's visit, they would be attempting to make more things at home. Bookshelves and potstands were the items most commonly suggested. Of the six respondents who did not envisage making more things at home, five gave as their reason lack of tools or equipment and one referred to lack of time.

Of the 10 students who considered the course useful to their everyday lives, most gave as their reason the useful home handyman skills they had learnt and only one commented that the skills had occupational relevance. All four students who did not consider the experience would help in their everyday lives judged the skills learnt to have no relevance to their jobs.

Asked whether they would recommend the classes to others, all 14 adults responded in the affirmative. The more frequently given reasons related to the perceived quality of the classes, which were seen as enjoyable, useful and instructive. PCAP files contain numerous letters supporting this view and similar comments were recorded during interviews and discussions with residents of the South-West and Central PCAP Regions.

CHAPTER 6

CONCLUSIONS AND ISSUES

General Conclusions

The following list of conclusions represents an attempt to synthesise and summarise the principal findings presented in foregoing sections of this report.

1. The aims of the Unit accord well with those usually propounded in the literature relating to the role of manual arts in general education. Also, many authorities have argued that a balanced curriculum must necessarily include a practical component, such as manual arts, at both the primary and the secondary level.

2. As outlined in Chapter 3, the Unit programs have successfully introduced pupils to a wide range of useful skills in woodwork, metalwork and plastics. For primary pupils, the Unit has provided an introductory course in these subjects, with practice in a wide range of basic techniques. For secondary students, the main emphasis has been upon providing activities to supplement their school courses, particularly through the use of fixed and portable machine tools and the Unit's welding facilities.

3. Using a project-centred approach, the Unit programs have not only provided practice in craft skills, but also in those sketching and draughting technicques necessary to complete each job. In addition, the carefully selected range of projects has involved pupils in learning the characteristics of a range of different materials and the appropriate means of fashioning each.

4. As was seen in Table 9, for most primary pupils, the Unit visits have provided their first lessons in Manual Arts and the same has been true for most female secondary students. Both categories have participated enthusiastically and achieved well.

5. Without exception, all pupils judged that the time which they had spent in the workshops had been worthwhile and as Table 10 showed, the majority would welcome longer visits. Also, most considered that the Unit had inspired them to attempt more craft work at home. It was abundantly clear that pupils thoroughly enjoyed their time in the workshops.

6. As was shown in Chapter 4, a majority of teachers and principals judged the Unit visits to have had a positive effect on pupil attitudes, especially in terms of motivation and interest. Low achievers, in particular, were thought to benefit.

7. Although most teachers and principals judged that Unit visits had no adverse effects on school programs, a significant minority disagreed because of the disruption caused to normal timetables. However, even the minority considered that the benefits of visits outweighed any disadvantages. Also about half of all the teachers surveyed considered that the Unit visits enriched the curriculum through broadening pupils' experience and encouraging subject integration.

8. Chapter 4 also discussed the relationship between the workshop experience and the school curriculum. Slightly more than half of the teachers had been able to relate their lessons in some way to the Unit's visit, particularly through the use of the preworkshop papers.

9. The workshop papers and audio-visual materials were judged satisfactory by most of the pupils and teachers who had used them, thus suggesting that the difficulty of designing materials for such a disparate audience had been largely overcome. As evidenced by the interview in Appendix H one expert critic suggested the need for more illustrations in the booklets and more attention to the explanation of new terms and processes. However, it was generally agreed that the papers provided a very handy source of reference.

10. Manual Arts teachers in country schools value highly the opportunity for professional contact with Unit staff.

11. The design of the Manual Arts Unit was discussed in Chapter 2. In terms of overall design, it appears that the existing Unit has achieved an effective compromise between mobility on country roads, ease of assembly on location and adequacy of the workshop facilities incorporated.

12. A discussion on staffing levels in Chapter 2 showed that the current level and system of staffing appear well-suited to the style of operations reviewed in this report and have facilitated the provision of adult evening classes at those centres where the demand existed.

13. Chapter 5 discussed the reaction of adults to evening classes. In general, attending adults not only enjoyed the evening classes, but also valued the skills learnt and the things they were able to make. The participants, who were drawn from a wide range of occupations and age groups all intended to recommend the classes to others in the community.

14. On the basis of experience to date, it would appear that a single Manual Arts Unit can provide visits of two or three weeks duration to some 20 different schools in the course of a year, thus involving between 400 and 500 pupils. It also appears that, for reasons of cost effectiveness, the service cannot be offered to the smaller, more isolated primary schools, because of their limited enrolments in upper classes. A total of 20 pupils in Years 5, 6 and 7 would appear to be the absolute minimum. Geographical location in relation to a viable itinerary is another important factor.

15. Where the Unit is required to provide schools with courses which meet Board of Secondary School Studies requirements, visits of eight or nine weeks duration are necessary to complete the equivalent of a year's normal work. It follows that the provision of this service significantly reduces the time available to other schools. Thus the number of schools which can be included in future annual itineraries will depend very much on whether alternative provision can be made for those schools currently without manual arts facilities. A further consideration relates to the design of Unit facilities, which include equipment for activities, such as welding, that are not included in the Board course. Consequently, the provision of such courses leaves a whole range of expensive equipment lying idle for many weeks at a time.

16. Although Local Advisory Committees recognised the value of the Unit's program for secondary schools they were less certain about the appropriateness of the visits to primary schools, particularly since manual arts courses were not available in State primary schools elsewhere. Also, several Local Advisory Committees recommended that the Unit be shared with other regions.

17. Overall, pupils, teachers, and principals were in agreement about the value of the Unit's visits for country schools. Major reasons given for this opinion related to the quality of the programs offered and the professionalism of Unit staff. A number of the principals would welcome more frequent visits than the present maximum of one a year.

18. The original capital cost of establishing the Unit during 1978 and 1979 was in the region of $200 000. The recurrent cost of operations, at the level reviewed in this report, was approximately $100 000 for 1981/82, of which about 80 per cent related to staff salaries and allowances. This figure includes no allowance for capital depreciation.

Principal Issues

The principal issues facing decision makers would appear to be:

1. An emerging question is the extent to which the Unit should be shared with other PCAP regions. Given the evidence demonstrating the success of the program its extension to other areas is supported provided that the needs in the new area are at least similar to those in the South-West.

2. If further sharing of the Unit is judged appropriate, then it may be necessary to negotiate mutually acceptable guidelines to assist in establishing regional priorities for the planning of future itineraries. In addition, some form of negotiation between the Manual Arts Inspectors and regional representatives may be the most suitable means of deciding which schools within a particular region should receive visits.

3. The escalating cost of existing initiatives is a major problem facing all PCAP committees as the areas and numbers of pupils to be served increase. Labour intensive as it is, high costs are a feature of this program and ways might be explored on how to reduce these costs. One possible means of cost reduction is with accommodation. Since Unit staff normally occupy hotel/motel accommodation at each location visited, the daily allowance for each teacher has exceeded $270 per week during 1982. Clearly if some equitable means of reducing this expenditure could be found, the containment of costs would be greatly facilitated.

4. Finally, there is the issue of the Unit's future to be considered. This report has presented in some detail the nature and extent of the service which the Unit has provided to country children in south-west Queensland. Given the success of the Unit and the educational benefits provided for country students one question to be asked at the State level is, under what conditions could the Unit be disbanded?

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APPENDIX A.

GENERAL PROFILE

PRIORITY COUNTRY AREA PROGRAM QUEENSLAND

Number 1 **December 1981**

Title:	Priority Area Program, Queensland
Area Extent:	860 500 km²
Priority Areas:	South-West, Central and North-West (see map)
Date Commenced:	March 1977
Budget:	1981/82 (estimate) $1 800 000
PCAP Staff:	24 teachers, 1 speech therapist, 4 technical officers, 2 graphic artists, 2 evaluation researchers, 2 clerks, 2 clerk typists, 3 clerical assistants, 1 unit support officer, 3 co-ordinators, 1 general secretary, 1 teacher aide
Contact Person:	General Secretary, PCAP, GPO Box 1605, Brisbane, Q 4001.

DESCRIPTION

Background:

- The Commonwealth Schools Commission *Report: Rolling Triennium 1977–79* suggested 'that students in country areas may be disadvantaged compared to urban dwellers'. As a consequence, funds were provided through the Disadvantaged Country Area Program to encourage the piloting of schemes to improve the educational opportunities of children in country areas.
- In Queensland, the scheme has been known as the Priority Country Area Program (PCAP) and three areas of the State, identified on the basis of guidelines supplied by the Schools Commission, have participated to date:
  - South-West, declared March 1977
  - Central, declared November 1977
  - North-West, declared December 1979.
- Factors influencing the selection of areas have included community characteristics such as socio-economic levels, social isolation and local employment possibilities, and school characteristics such as retention rates, teacher turnover and range of curriculum choice.
- The declaration of such areas, originally the prerogative of the Commonwealth Minister for Education, has recently become the responsibility of the State Minister for Education.

Administration:

- In 1977, a Joint Committee, representing a wide range of educational interests, was formed to administer the program in Queensland. This committee was assisted by local advisory committees in the south-west and a regional committee in the central PCAP area. The declaration of the North-West priority area was followed by a reorganisation of PCAP committee structures during 1980, resulting in a smaller State Management Committee and larger regional committees in each of the three PCAP areas. Membership of the latter committees provides representation for the State and non-State education systems as well as for a variety of community interests and organisations. The Management Committee comprises representatives of the State and Catholic education systems together with representatives from each of the regional committees.
- Day-to-day administration of the program is the responsibility of three regional co-ordinators, one in each priority area, and a general secretary, based in Brisbane.
- Schools Commission funding for the program has increased from approximately $1 million per annum during 1977 to the present budget of $1.8 million. The program is currently responsible for over thirty separate projects and employs more than forty full-time staff.

- A feature of the Program has been the co-operative effort of the State and Catholic education systems to provide administrative and other support services for PCAP personnel.

Geography:

- The PCAP areas, covering some 860 000 km^2 of western and central Queensland, together comprise some 50 per cent of the total area of the State.
- The South-West and North-West PCAP Areas occupy the region known as the Western Plains, interrupted around Mount Isa by the more rugged country of the North-Western Uplands. In the Central PCAP Area the Eastern Highlands achieve their maximum breadth, making this a region of ridges and valleys.
- In terms of both climate and vegetation the PCAP areas generally represent a broad transition zone between the eastern forest zones and the dry desert margins of Central Australia. Both tropical and sub-tropical areas are characterised by extremes of temperature, unreliable rainfall and intense sunshine. Averages for Longreach would typify the climate of western Queensland:

	January	July
Daily maximum temperature	37.9°C	23.8°C
Daily minimum temperature	22.7°C	6.8°C
Annual rainfall	436 mm	

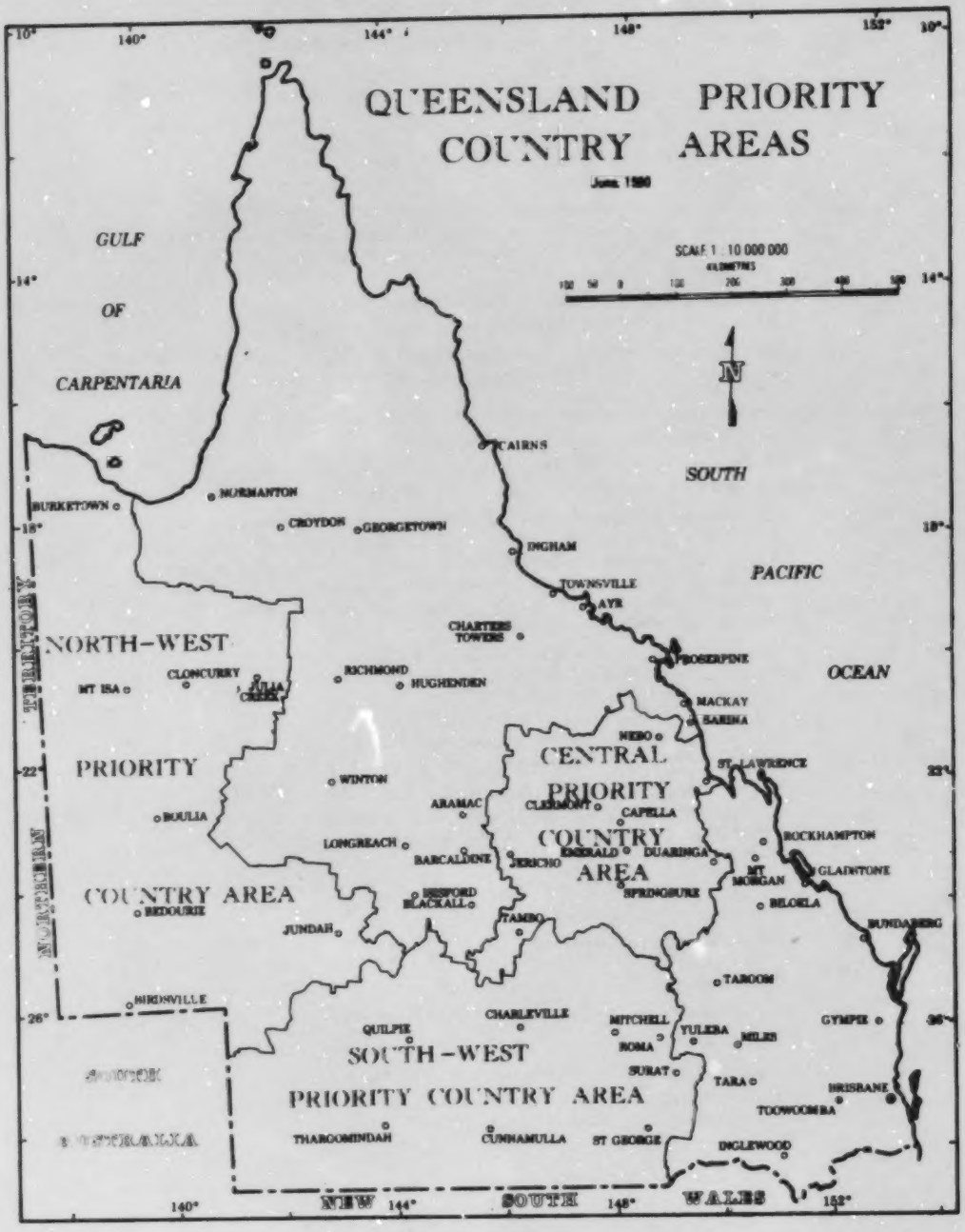
- Primary industries such as pastoral farming and mining dominate the economy, although service industries are associated with the widely scattered towns.
- The area is served by a network of main and subsidiary roads, although many of these are unsealed and impassable in wet weather.
- More important centres, such as Mount Isa and Charleville, have both rail and air links with the eastern seaboard.
- Although the PCAP regions cover 50 per cent of the area of the State, they contain only 3 per cent of the total population. PCAP regions are thus characterised by low population densities and vast distances.
- Demographic data for the PCAP regions, compared to the State as a whole, are as follows:

Region Details	PCAP Areas			Comparative State Data
	South-West	Central	North-West	
Area	318 500 km^2	150 500 km^2	391 500 km^2	1 728 000 km^2
Population	26 300	38 900	9 750	2 500 000
Population Density	0.08 persons/km^2	0.26 persons/km^2	0.03 persons/km^2	1.30 persons/km^2
Population Change 1971–1976	-9.3%	+32.1%	+5.3%	+11.5%

- The Central PCAP Region differs from the other two in having a somewhat higher density of population and a growth rate above the State average. This contrasts sharply with the South-West, where population has declined.
- Three principal types of settlement can be recognised throughout the three PCAP areas: rural service centres, mining towns and single homesteads.
- For more detailed information about each of the PCAP areas, reference should be made to the appropriate regional profiles (*General Profiles Numbers 2, 3 and 4*).

Educational Provisions:

- In August 1981, there were 103 State and non-State schools in the PCAP regions, catering for 11 343 primary and 3241 secondary pupils. Details are as follows:


QUEENSLAND PRIORITY COUNTRY AREAS
June 1990
SCALE 1 : 10 000 000
KILOMETRES
GULF OF CARPENTARIA
PACIFIC OCEAN
SOUTH
N
NORTH-WEST PRIORITY COUNTRY AREA
CENTRAL PRIORITY COUNTRY AREA
SOUTH-WEST PRIORITY COUNTRY AREA
NEW SOUTH WALES
NORTHERN TERRITORY
QUEENSLAND
BURKETOWN
NORMANTON
CROYDON
GEORGETOWN
CAIRNS
INGHAM
TOWNSVILLE
AYR
CHARTERS TOWERS
BOWEN
MACKAY
SARINA
MT ISA
CLONCURRY
JULIA CREEK
RICHMOND
HUGHENDEN
NEBO
ST LAWRENCE
WINTON
ARAMAC
CLERMONT
CAPELLA
ROCKHAMPTON
BOULIA
LONGREACH
BARCALDINE
JERICHO
EMERALD
DUARINGA
MT MORGAN
GLADSTONE
SPRINGSURE
BEDOURIE
BIGFORD BLACKALL
BELOELA
JUNDAH
TAMBO
BUNDABERG
TAROOM
BIRDSVILLE
CHARLEVILLE
MITCHELL
YULEBA
MILES
GYMPIE
QUILPIE
ROMA
SURAT
TARA
BRISBANE
TOOWOOMBA
THARGOMINDAH
CUNNAMULLA
ST GEORGE
INGLEWOOD

Type of School	State			Non-State		
	No. of Schools	Enrolment	No. of Staff	No. of Schools	Enrolment	No. of Staff
Primary	72	7282	341	11	1282	53
Primary/ Secondary	13	2530 1057	132 100	1	249 110	9 6
Secondary	6	2174	167	nil	nil	nil
Total	91	13043	740	12	1641	68

- Correspondence facilities provided by the Department of Education catered for a further 481 primary and 88 secondary school-age pupils, unable to attend normal schools. There are Schools of the Air at Charleville and Mount Isa, which also assist primary correspondence pupils.
- Other provisions included three special education centres, 19 pre-schools, and pre-school classes at 19 of the primary schools.
- In addition, Commonwealth financial assistance to isolated families enables many children to complete their secondary education at boarding schools.

PCAP Provisions:

- Full details of PCAP projects are provided in *Project Profiles (Numbers 1–32)*, available upon request from the PCAP Brisbane Office.
- PCAP initiatives have developed two major thrusts, one aimed at helping country schools and the other at assisting correspondence pupils.
- Assistance to country schools has been mainly through the provision of (a) facilities intended to enrich the curriculum and (b) support staff with specialist skills. Examples of the former have included a closed-circuit television program, buses for school outings, itinerant music teachers, a mobile field study unit and a mobile manual arts unit. Examples of the latter have included technical maintenance officers, speech therapists and remedial/resource teachers.
- Assistance to correspondence pupils has been mainly through the provision of itinerant teachers in the South-West and North-West Regions and of a Mobile Classroom in the Central Region.

PCAP Evaluation:

- Responsibility for evaluating the Program rests with the PCAP Evaluation Committee, assisted by an evaluation team consisting of a co-ordinator and a research assistant.
- Evaluation activities include the preparation of formal reports on PCAP projects, the production of Project and General Profiles, the provision of informal reports for PCAP committees, a research service for the Program, and assistance with the internal self-evaluation of PCAP activities.
- Evaluation publications currently available include:

  Project Profiles: Numbers 1–32

  General Profiles: Numbers 1–4

PCAP Evaluation Series:

- *Report Number 1 – The Primary Itinerant Teacher Service in South-West Queensland*
- *Report Number 2 – The Secondary Itinerant Teacher Service in South-West Queensland*
- *Report Number 3 – The Roctapus Closed-Circuit Television Program*
- *Report Number 4 – The Mobile Classroom in Central Queensland*
- *Report Number 5 – The Itinerant Secondary Remedial/Resource Teacher Service in Central Queensland*
- *Report Number 6 – The Mobile Remedial Unit in South-West Queensland*
- *Report Number 7 – The Transport Needs of PCAP Field Staff in South-West and Central Queensland*
- *Report Number 8 – The Instrumental Music Program in South-West Queensland*
- *Report Number 9 – The Mobile Field Study Unit in South-West Queensland*
- *Occasional Paper – Local and Regional Committees of the Priority Country Area prior to 1980*

APPENDIX B.

GENERAL PROFILE

PRIORITY COUNTRY AREA PROGRAM QUEENSLAND

Number 4 December 1981

Title:	The South-West Priority Country Area
Area Extent:	318 500 km^2
Local Authority Areas:	Balonne, Booringa, Bulloo, Bungil, Murweh, Paroo, Quilpie, Warroo, Roma Town
Date Declared:	March 1977
Budget:	1981/82 (estimate) $760 000
PCAP Staff:	1 co-ordinator, 16 teachers, 1-unit support officer, 1 clerk typist, 1 teacher aide, 1 technical maintenance officer
Address of PCAP Regional Office:	South-West PCAP, PO Box 47, Charleville, Q 4470, tel.: (074 5911) 827

DESCRIPTION

Geography:

- The area occupies the south-west corner of the State (see Figure 1), extending approximately 750 km from east to west and 400 km from north to south.
- Although Tambo was declared part of the Central Area, it receives a number of services from the South-West Area because of its proximity to that region.
- It may be regarded as a broad transition zone between the fertile farming lands of the Darling Downs, through mulga and open grasslands, to the desert margins of central Australia.
- Although the climate becomes increasingly dry and extreme as the western margins are approached, the figures for Charleville would be representative of much of the area.

	January	July	Annual
Daily Average Temperatures	Max. 34.6°C	19.4°C	28.0°C
	Min. 21.2°C	6.2°C	13.9°C
Rainfall	78 mm	21 mm	515 mm

- Climate is characterised by a large daily temperature range, unreliable rainfall and intense sunshine, particularly in summer.
- The principal type of land use is pastoral farming, although towards the eastern margins, particularly around St George, crop farming is increasingly important.
- The region relies heavily on artesian bores for its water supplies.
- Oil and gas are found in the Roma/Surat area, coal is mined at Injune and widely scattered opal fields occur in the far west.
- Service industries provide employment in the towns of the area.
- There is a rail link between Brisbane and Quilpie, passing through Roma, Mitchell, Morven and Charleville, with a branch line to Cunnamulla. A twice-weekly passenger service is available between these centres and Brisbane.
- A network of main and subsidiary roads serves the area, although unsealed sections still cause problems in wet weather. Many sealed roads have only a single lane of bitumen.

- The daily coach service between Longreach and Brisbane follows the Warrego Highway from Charleville to Brisbane.
- Air services provide the following links with Brisbane – Charleville (five days per week), Cunnamulla (three days per week), and St George (three days per week). Charleville is a Royal Flying Doctor base.

Demography:

- Total population of the area was estimated at 26 300 on 30 June 1980, giving an average density of 0.08 persons per square kilometre.
- Population densities decreased from 0.61 persons per square kilometre for Bungil Shire (including Roma) in the east to 0.01 persons per square kilometre for Bulloo Shire in the west.
- Service centres (with populations estimated on 30 June 1976) were Dirranbandi (587), St George (2155), Mitchell (1320), Thargomindah (200), Injune (413), Augathella (512), Charleville (3915), Morven (237), Cunnamulla (1950), Quilpie (728), Roma (6070) and Surat (503).
- Census figures revealed a decline of 9.3 per cent in the population of the area between 1971 and 1976. (The State population increased by 11.5 per cent during this period.)

Educational Provisions:

- A summary of the enrolments and staffing of the primary and secondary schools in the South-West Priority Country Area is shown in the following table.

Type of School	State			Non-State		
	No. of Schools	Enrolment	No. of Staff	No. of Schools	Enrolment	No. of Staff
Primary	25	2073	110	6	689	29
Primary/ Secondary*	5	717 335	43 32	1	249 110	9 6
Secondary	3	888	73	nil	nil	nil
Total	33	4013	258	7	1048	44

* This refers to primary schools with secondary departments.

- It will be noted that in August 1981 there were 33 State and seven non-State schools in the area, with a total enrolment of 5061 pupils. Although 70 per cent of the schools with primary pupils were 'small' (enrolment ≤ 100), pupils enrolled at these schools represented only 20 per cent of the total primary enrolment.
- Full high school facilities exist at three centres – Roma, Charleville and St George and there are schools with secondary departments at Cunnamulla, Dirranbandi, Injune, Mitchell, Surat and Tambo. In the two shires without secondary facilities, Bulloo and Quilpie, provision is made for secondary-age students to attend the State primary schools at Thargomindah and Quilpie, where they are enrolled with the Secondary Correspondence School from which they receive papers.
- For children unable to attend school, usually because of distance or isolation, the State Education Department has provided a range of correspondence education facilities. Thus, at the end of 1981, there were resident in the South-West Priority Country Area, some 171 pupils enrolled with the Primary Correspondence School and some 45 school-age students enrolled with the Secondary Correspondence School.
- In addition to the above provisions, there are six pre-schools, 10 primary schools with classes for pre-school pupils, and two special education centres. Further, pupils may be assisted by the Isolated Children's Special Education Unit in Brisbane. There is a School of the Air at Charleville. There are no post-secondary facilities in the area.
- Although the south-eastern part of the area, around St George, lies in the Education Department's Darling Downs Region, the greater part lies within the South-West Region, which is administered from the Regional Office in Roma. The non-State schools in this PCAP region, all of which are Catholic, are in the area administered by the Diocesan Director of Education in Toowoomba.

Problems:

- Those related to the nature of the area and of the community include low socio-economic levels, restricted employment opportunities, declining population, social isolation and limited cultural, sporting and medical facilities.
- Difficulties facing schools include low student retention rates, high teacher turnover, limited curriculum choice, young and inexperienced teachers, lower attainment levels and limited vocational aspirations of students.

PCAP Services:

- Following is a list of Priority Country Area Program Services currently available in the South-West Area. The number of the project profile describing each initiative appears in brackets.

  Primary Itinerant Teacher Service (1)

  Mobile Manual Arts Unit (2)

  Country Video Service (3)

  Mobile Field Study Unit (6)

  Instrumental Music Program Unit (8)

  Specialist Support Service – Recreation (10)

  Exceptional Children (11)

  Cultural Activities (12, 13)

  Mini-buses (15)

  Subsidised Coach (16)

  Technical Maintenance Officers (17)

  Regional Home Centre, Roma (23)

  Regional Music Centre, Roma (24)

  Resource Kits (29)

  Vocational Reference Centres (32)

  Itinerant Primary Remedial/Resource Teacher Service (33)

- The budget figure of $760 000 does not include the cost of the Country Video Scheme which is shared by all the Priority Areas and is not therefore regarded as part of the regional budget.
- As the first area to be declared, the South-West initially enjoyed a large number of PCAP services and a higher share of PCAP funds than the other regions. The balance has gradually been redressed as new initiatives were introduced.

Administration:

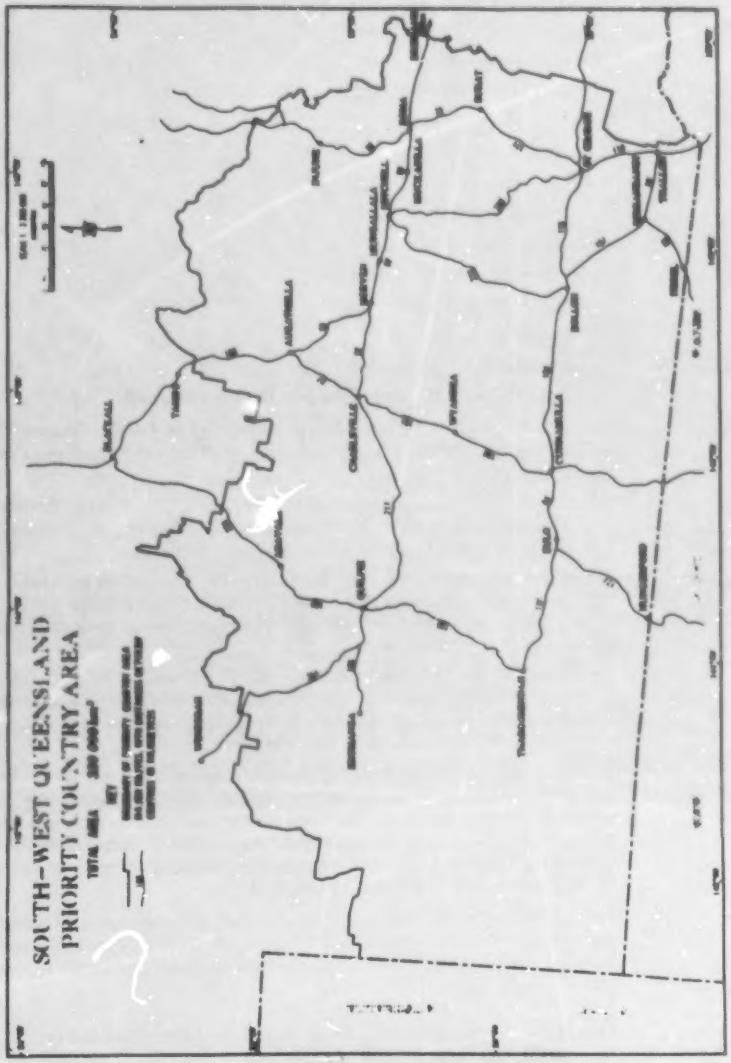
- The day-to-day administration of PCAP services in the South-West is the responsibility of the Regional Co-ordinator, based at the PCAP Office in Charleville. All PCAP field staff are directly responsible to the Co-ordinator, who in turn is responsible to the Regional Director (South-West) in Roma.
- The Regional Director is also chairman of the PCAP South-West Regional Committee which, since 1980, has been responsible for monitoring PCAP services, disbursing regional allocations and formulating regional policy. It also advises the State Committee on major submissions relating to the South-West.
- The Regional Committee, of some 20 members, provides representation for a wide range of interests and organisations, including the State Education Department, Catholic Education, Local Advisory Committees, the Isolated Children's Parents Association, the School of the Air parents, the Queensland Association of Independent Schools, the Queensland Teachers Union, the Aboriginal Consultative Committee, and the Queensland Council of Parents and Citizens Associations.
- Local Advisory Committees were originally formed at main centres throughout the South-West to facilitate communication between country communities and the PCAP State Committee. Direct representation on the Regional Committee appears to have enhanced their role.

Evaluation:

- Project profiles have been prepared on all the initiatives which had operated in the South-West Area up to the end of 1980.

- Evaluation reports relating to South-West Area initiatives have been completed as follows:

  Report Number 1 – Primary Itinerant Teacher Service
  Report Number 2 – Secondary Itinerant Teacher Service
  Report Number 3 – Roctapus Closed Circuit Television Program
  Report Number 6 – Mobile Remedial Unit
  Report Number 7 – Transport Requirements of PCAP Field Staff
  Report Number 8 – Instrumental Music Program
  Report Number 9 – Mobile Field Study Unit



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APPENDIX C.

PROPOSAL FOR MOBILE MANUAL ARTS WORKSHOP

INTRODUCTION:

1. The provision of experiences in Manual Arts to children in country areas has presented many difficulties. The high cost of equipping and staffing schools to implement necessary courses where pupil numbers are low has meant that Manual Arts facilities in more remote areas are either non-existent or otherwise limited in scope. For example -

   Several primary schools in country areas offer a course of study in General Subjects at Year 8 level without the benefits of supportive Manual Arts experiences.

   Secondary students who elect to study this particular subject must in many cases terminate studies at Year 10 level because the particular school is not able to offer a course beyond that level.

   The absence of such facilities in country areas can also be seen as discriminating against those who wish to be involved in a range of structured technical experiences in their own spare time.

   It is proposed, therefore, that initially in the South-West Priority Country Area, a mobile workshop complex be staffed and equipped to offer a range of Manual Arts experiences particularly to the children in the area, but also with the capacity to involve school-leavers in a range of activities.

   Though activities will be centred on primary and secondary schools, it will be possible for the workshop to operate independently away from such bases. It is planned therefore to involve children presently enrolled with Primary and Secondary Correspondence Schools in the Program.

2. AIMS OF THE PROJECT:

   1. To provide facilities in the form of mobile practical workshops to enable pupils in remote areas to undertake a specially designed course in Manual Arts where present facilities are either limited in scope or non-existent.

   2. To provide facilities which can be utilized by school leavers in remote areas for their personal development.

   Specifically the scheme aims:

   - to develop a range of practical skills associated with the joining, bending and shaping of materials.

   - to develop knowledge and understanding of these materials and the techniques involving these skills.

   - to develop the skill of reading working drawings, assembly drawings, pictorial views.

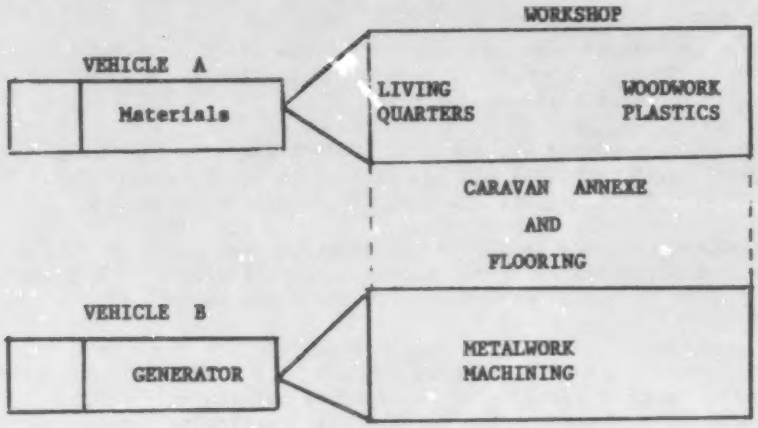
   - to develop a knowledge of machines, machinery, portable electric power tools, welding, spray painting and motor mechanics.

   - to develop a knowledge and appreciation of the need for safe working practices.

3. CONCEPT OF MOBILE WORKSHOPS:

Considerable research has been carried out into the most satisfactory way of providing the service outline. This included the feasability of using converted buses, semi-trailers and caravans.

After careful consideration of all aspects, the two mobile independent workshops as illustrated below were seen as being ideal:



The workshops are to be equipped with benches; lathes; milling machine; jigsaw; soldering facilities' ovens and strip-heaters for the processing of acrylics; and specialist hand and power tools. The woodwork caravan, additionally, is to contain living accommodation.

Welding facilities, both oxy-acetylene and electric, are to be installed in, or adjacent to, the metal workshop caravan.

Traction is to be provided by utility type vehicles equipped as support units - one as a power generator, the other for material storage - one of which is to have four wheel drive capacity.

Full details of equipment, materials and organization of workshops is contained in the detailed specifications attached. It should be noted that air conditioning units have been included as part of the equipment. This is considered to be a necessity due to heat sources e.g. from welding, soldering, etc.

STAFFING OF WORKSHOPS:

It is proposed that the mobile workshop be staffed by two Manual Arts teachers assisted by one Unit Support Officer. Teachers are to be selected on the basis of their metalworking and woodworking trade backgrounds. The Unit Support Officer is to be engaged in the erection and dismantling of facilities, preparation of materials, general maintenance of equipment, service and repairs of unit vehicles, compilation of records and data and, where necessary, as relief driver.

PROGRAM TO BE IMPLEMENTED:

A range of activities specially designed to meet the needs and interests of children in the priority areas will be prepared by the teachers attached. This developmental work will be carried out in consultation with the people of the area.

It is planned that close liaison be established with the Secondary Correspondence School in the preparation of supplementary course material to prepare students for the unit visit. Again the potential of such developmental work for possible adult courses is recognised and the possibility of providing basic welding, woodwork and motor mechanics courses will be investigated with the Division of Technical and Further Education.

As it is planned to involve children at Years 6 and 7 in a range of special activities, introductory to Manual Arts Courses, developmental work with the assistance of the Primary Correspondence School will also be undertaken.

Involvement of officers of the Resource Services Branch, the Curriculum Branch and the Information and Publication Branch in the developmental work will be sought as required.

COSTING:

Full details of all materials and equipment required are included in the attachment.

Approximate cost of various components, of salaries and recurring expenditure is as follows.

Equipment and Materials:

1 only Metalwork Mobile Workshop	-	$40,000.00
1 only Woodwork/Living Accommodation Mobile Workshop	-	45,000.00
1 only Annexe (10' x 30') including Flooring	-	15,000.00
Machinery/Equipment/Hand Tools	-	20,000.00
Furniture	-	5,000.00
Materials (Consumable)	-	5,000.00
Materials (Expendable)		5,000.00
1 only F250 4 W.D. enclosed back (Materials)	-	12,000.00
1 only F350 Conventional Drive enclosed back (Welding/Power)	-	13,000.00
1 only 25KVA Power Generator	-	7,000.00
		$167,000.00

Recurrent Costs:

1.	Salaries - 2 Teachers	-	$28,000.00
2.	Salary - 1 Unit Support Officer	-	10,000.00
3.	Daily Allowances	-	12,000.00
4.	Materials (Consumable)	-	2,000.00
5.	Materials (Expendable)	-	1,000.00
6.	Vehicle Running Expenses (Fuel/Service/ Repairs)	-	5,000.00
7.	Equipment Maintenance	-	1,000.00
			$59,000.00

ESTIMATED TOTAL COST $226,000.00

FUNDING:

Sufficient funds are available from Priority Country Area Funds to cover the total cost of this project.

APPENDIX D.

GENERAL AIMS OF MANUAL ARTS COURSES

To assist students to develop knowledge, skills, attitudes, interests and values through technically oriented experiences, while at the same time, inculcating a desire to achieve independence of thought and the ability to analyse and evaluate problems and situations.

Manual Arts Courses are concerned with:

1. Developing habits which promote safe and correct working practices.

2. Fostering inquiry and analysis so that individuals will develop skills in critical thinking, decision making and problem solving.

3. Identifying and developing those areas of technical knowledge that will be of assistance in life.

4. Developing students' communication skills.

5. Encouraging an understanding of the relevance of technology to changes in society.

6. Guiding students in certain aspects of their psychomotor development while fostering an appreciation of quality in workmanship.

7. Developing economic competence and an awareness for the need of conservation of natural resources.

8. Developing personal qualities of independence of thought, tolerance, initiative, self-reliance, confidence and a sense of satisfaction in personal achievement.

9. Encouraging the creative use of leisure.

10. Developing an awareness of vocational responsibilities.

11. Promoting aesthetic values.

12. Developing skills which encourage human interaction and co-operation.

GENERAL OBJECTIVES OF THE STUDY AREA - GENERAL SHOP

1. COGNITIVE OBJECTIVES:

General: To develop intellectual expertise of a technological nature via the medium of shop practices.

Specific: To develop ...

(a) a knowledge and understanding of a wide range of materials, tools, equipment and processes;

(b) a knowledge and understanding of the various types of graphical representations relative to technical processes;

(c) creative thinking by activating student participation in design;

(d) the ability to analyse practical problems and to determine suitable solutions by the application of design techniques;

(e) research abilities, so that areas of knowledge, comprehension, application, analysis, synthesis and evaluation can be investigated by the student himself;

(f) the ability to determine the functional and aesthetic quality of products, and to analyse the suitability of materials for specific applications;

(g) a knowledge and understanding of the historical aspects of hand and machine tool development;

(h) a knowledge and understanding of safe working practices;

(i) the ability to co-ordinate knowledge and experiences from other subject areas and give them practical applications.

2. PSYCHOMOTOR OBJECTIVES:

General: To develop psychomotor skills through practical experience in a wide range of processes.

Specific: To develop the ability to ...

(a) shape materials to desired forms with common hand tools;

(b) join and assemble materials satisfactorily;

(c) operate machine tools with precision;

(d) apply surface finishing materials to obtain an acceptable standard of appearance and completion;

(e) prepare related sketches and drawings to a satisfactory standard.

EFFECTIVE OBJECTIVES:

General: For the student to value:

(i) practical work;
(ii) associated technology;
(iii) related graphical expressions;
(iv) research in the field of ergonomics (the study of design and its relationship, both functional and aesthetic, to man);
(v) technological processes;

and to develop attitudes, values and an atmosphere to inspire motivation.

Specific: To develop ...

(a) a sense of satisfaction in personal achievement;

(b) an appreciation of aesthetic values and qualities in workmanship;

(c) interest in experimentation, research and creativity using a wide range of materials and processes;

(d) those personal qualities such as responsibility, independence of thought, self-reliance, initiative, self-control, etc., which prepare for vocational responsibilities;

(e) those social skills which encourage human interaction and co-operation through group activities, projects and field trips;

(f) tolerance of differences in individuals arising as a result of physical, emotional, intellectual or environmental factors which limit workshop activities;

(g) the desire to enrich life through the effective use of leisure whereby knowledge and skills applicable to General Shop will be applied to the home environment;

(h) safety values.

APPENDIX E.

P.C.A.P. **MANUAL ARTS**

Evaluation Sheet for Principals

Where applicable, please tick the appropriate box.

1. School:

2. Number of teachers on staff: Male ( ) Female ( )

3. Grades and numbers in each grade of students attending the Manual Arts Workshops.

GRADE	BOYS	GIRLS	TOTAL

4. Has the visit of the Workshops had any significant effect on students' attitudes, interests or behaviour?

Yes ☐ No ☐

If yes, in what way has this effect been demonstrated?

5. Has the visit of the workshops had any detrimental effect on the school's teaching program? (For example, in terms of timetabling or disruption to normal school activities)

Yes ☐ No ☐

If yes, in what way?

If yes, were the detrimental effects adequately compensated for by beneficial effects?

Yes ☐ No ☐

6. Has the visit of the workshops produced, or do you expect it to produce, any beneficial effects on the school's teaching program?

Yes ☐ No ☐

If yes, in what way?

7. If girls were able to attend the workshops, what were their reactions at being able to join in these experiences?

If girls were not able to attend the workshops, was there any particular reason for this?

8. Has the teaching staff of the school been able to benefit in any way from the workshops?

Yes ☐ No ☐

If yes, in what way?

9. From experience and knowledge gained over the period you have been involved with the workshops, what changes do you consider necessary or desirable to:

(i) adequately prepare the principal, teachers and students for the workshops visit?

(ii) improve the efficiency and/or effectiveness of the workshops?

10. In your opinion, at what time intervals should the workshops visit your area?

11. What follow-up service/s or materials would you expect after the workshops have visited your area?

12. What has been the reactions of parents to the P.C.A.P. Manual Arts project?

13. What has been the reactions of the general public to the project?

14. What are your overall impressions of the project?

APPENDIX F.

P.C.A.P. MANUAL ARTS

EVALUATION SHEET FOR TEACHERS OF STUDENTS ATTENDING WORKSHOPS

Where applicable, please tick the appropriate box.

1. School:

2. Sex: Male ☐ Female ☐

3. How many years have you been teaching? ☐ years

4. How many teachers are on the staff of your school? ☐

5. What are the grades and numbers of students from your classes attending the workshops?

GRADE	BOYS	GIRLS	TOTAL

6. Has the visit of the workshops had any significant effect on your students' attitudes, interests or behaviour?

Yes ☐ No ☐

If yes, in what way has this effect been demonstrated?

7. Has the visit of the workshops had any detrimental effect on your teaching program?

Yes ☐ No ☐

If yes, in what way?

If yes, were the detrimental effects adequately compensated for by the beneficial effects?

Yes ☐ No ☐

8. Has the visit of the workshops produced, or do you expect it to produce, any beneficial effect on your teaching program?

Yes☐ No☐

If yes, in what way?

9. Were you able to accompany your class/es to the workshops sessions?

Yes☐ No☐

If yes, comment on:

(i) The concept of mobile workshops.

(ii) The benefits that should flow from such workshops.

(iii) Shortcomings in the teaching program being offered by the workshop.

If no, were you disappointed at not being able to accompany your class/es?

Yes☐ No☐

Why?

10. Were you able to actively participate in the workshops?

Yes☐ No☐

If yes, in what way?

If no, was there any practical reason?

11. If girls from your class/es attended the workshops, what were their reactions at being able to join in these experiences?

12. Were you able to give your students any "related instruction" prior to or during the visit of the workshops?

Yes ☐ No ☐

If yes, what were the general areas of instruction dealt with?

If no, why?

13. After the workshops have left, do you intend to give your students "follow-up" related instruction?

Yes ☐ No ☐

14. How would you rate the orientation or pre-workshop instruction papers in terms of:

(i) Usefulness;

(ii) Presentation;

(iii) Content?

15. Generally, were students able to understand most of the contents of the papers by the time the workshop arrived?

Yes ☐ No ☐

If no, is there any apparent reason?

16. From experience and knowledge gained over the period you have been involved with the workshops, what changes do you consider necessary or desirable to:

    (i) adequately prepare teachers and students for the workshops visit?

    (ii) improve the efficiency and/or effectiveness of the workshops?

17. What follow-up service/s or materials would you expect after the workshop has visited your area?

18. What are your overall impressions of the P.C.A.P. Manual Arts project?

19. Any other comments you may with to make on any aspect of the project:

APPENDIX G.

P.C.A.P. MANUAL ARTS

Evaluation sheet for students

Students: If you have any difficulty in understanding or answering a question, please ask your teacher for assistance.

Where applicable, please tick the appropriate box.

1. School:

2. Sex: Male ☐ Female ☐

3. Age: ☐ Years

4. Grade:

5 Before the workshops arrived, you would have been given P.C.A.P. Manual Arts pre-workshops papers. Did you find the papers to be:

.very useful? ☐
useful? ☐
not very useful? ☐
not useful? ☐

Why?

6. Up until the arrival of the Manual Arts Workshops:

(a) Had you done any woodworking at home? Yes ☐ No ☐

(b) Had you done any woodworking at school? Yes ☐ No ☐

(c) Had you done any metalworking at home? Yes ☐ No ☐

(d) Had you done any metalworking at school? Yes ☐ No ☐

(e) Had you done any plastics work at home? Yes ☐ No ☐

(f) Had you done any plastics work at school? Yes ☐ No ☐

7. Do you feel that the time you have spent in the workshops has been worthwhile?

Yes ☐ No ☐

Why?

8. Do you feel that the time you had in the workshops was:

too long? ☐

just right? ☐

not long enough? ☐

9. Show how you liked each of the different subjects you did by placing a tick ( ) in one of the columns marked Very Much All right, Not Much. Write in the reason for your answer.

Cross out those you were not involved with.

SUBJECT	VERY MUCH	ALL RIGHT	NOT MUCH	REASON
WOODWORK				
METALWORK				
PLASTICS				
GRAPHICS				
WELDING				
MOTOR MECHANICS				

10. Which three projects did you like making most of all?

Why did you like making them?

11. Which three projects did you like making least of all?

What don't you like about those projects?

12. Now that you have gained some practice in the Manual Arts workshops, will you be trying to make more things at home?

Yes ☐ No ☐

If you answered yes, what sorts of things will you try to make?

If you answered no, give your reason.

13. Is there anything you have previously learnt in Science, Geography, History, Social Studies or Mathematics that assisted you in some way during your time in the Manual Arts workshops. If yes, give an example such as: properties of copper or aluminium, location of timber reserves in Queensland, uses of plastics, calculations.

SUBJECT	YES	NO	EXAMPLE
SCIENCE			
GEOGRAPHY			
HISTORY			
SOCIAL STUDIES			
MATHEMATICS			

14. Is there anything you have learnt during your time in the Manual Arts workshops that will assist you in your studies of Science, Geography, History, Social Studies or Mathematics? If yes, give an example such as: properties of steel or copper, types of plastics, reading of drawings, drawing diagrams.

SUBJECT	YES	NO	EXAMPLE
SCIENCE			
GEOGRAPHY			
HISTORY			
SOCIAL STUDIES			
MATHEMATICS			

15. Do you think that the things you have learnt in the workshops will help you later on in life?

Yes ☐ No ☐

16. What are your impressions of the Manual Arts mobile workshops?

APPENDIX H.

INTERVIEW WITH MANUAL ARTS EXPERT

Question: How appropriate are the design and layout of the booklets for their intended purpose?

Response: The design and layout of books 1 and 4 are good. The page size is good, illustrations are very good and the text is generally adjacent to the illustrations.

The supplementary booklets unfortunately are poorly illustrated in comparison with Books 1-4.

Question: How appropriate are the slides for their intended purpose?

Response: Generally the slides are appropriate for their intended purpose and that is to familiarise students with workshop procedures, tools and materials. I feel the accompanying script is too detailed and wordy for the students to handle 'cold'.

There is too much for students - particularly primary students - to absorb or come to grips with.

With many workshop activities, understanding comes only with hands on experience.

A simpler and more general script is needed.

Question: How suitable are the booklets/slides for the target population of pupils?

Response: If the students are to keep the books permanently then they are very good reference books.

An obvious problem is producing books for a target population having a wide range of reading ability, capacity to comprehend and degree of maturity.

I would imagine a number of primary students would have difficulty in reading the contents owing to the large number of technical terms used. In the booklets 1 and 2 are some 400–450 terms which would be new (or used in a new context) to most students not previously exposed to Manual Arts.

Some notes at the beginning of Book 1 advising the students' everyday teacher or in the case of correspondence students, advising their tutor on how they might assist the student in reading the books would seem essential.

A noticeable problem with Book 1 is that in discussing each tool, mention is made of its uses. However, without an accompanying illustration the text is probably meaningless to most students. In Book 2, some of the tools are shown in use but this is too far removed from the text in Book 1.

The value of Book 1 as a handy reference <u>after</u> the visit of the Unit is beyond doubt.

Some of the text in Book 2 is vague: for example, the information on hardwoods and softwoods is vague and should have been clarified.

Also, mention is made of line sawing, back sawing and quarter sawing but there are no diagrams to illustrate these points. The same applies to defects in timber. A diagram is essential to back up the text.

Generally the materials of the workshop section is sadly lacking in illustrations.

The supplementary booklets are generally difficult to comprehend (by pupils) and have few illustrations.

Texts of a technical nature require a myriad of illustrations.

It must be appreciated that the supplementary books would be issued during instruction and could be regarded as class-notes; however, the comment on insufficient illustrations still stands.

I feel that overall these booklets (i.e. the supplementary ones) could have been better presented using short sentences, short paragraphs, fewer words and more drawings - and drawings of good quality.

Question: How suitable are the booklets/slides for use by teachers without Manual Arts training?

Response: Generally the booklets and slides would be suitable provided the teacher was not entirely ignorant of the subject.

As mentioned previously, the script accompanying the slides would need to be more general and much briefer. Also, certain information needs to be clearer - in the slide script and in the books - or supported by diagrams.

I could well imagine the plight of a teacher on being bombarded with questions such as "What do they mean by quarter-sawing"? or "What does burl look like"? or "What do they mean by knocking up edges"?

The booklet 'Notes for the General Teacher (Years 6 & 7)'should offer some guidance to these teachers.

The booklets and slides have limited suitability for non-Manual Arts teachers. The main limiting factor being that certain terms and operations are not clearly explained. It must be appreciated that numerous technical operations cannot be adequately explained by words and illustrations but need demonstrating.

APPENDIX I.

PRIORITY COUNTRY AREA PROGRAM: MOBILE MANUAL ARTS UNIT

(Evaluation sheet for persons attending the evening class provided by the PCAP Mobile Manual Arts Unit)

The Mobile Manual Arts Unit is a new service provided by the Priority County Area Program, using funds supplied by the Schools Commission. To help us in judging the value of the service, will you please complete this form and return it to one of the Unit staff. If you have any difficulty in understanding or answering a question, please ask one of the instructors for help.

Where applicable, please tick the appropriate box.

1. Date:..... ...

2. Town/Centre: .....

3. Sex: Male ☐ Female ☐

4. Age: Under 30 years ☐ 30-45, ☐ over 45 ☐

5. Occupation: .....

6. Up until the arrival of the Manual Arts workshops:

   (a) Had you done any woodworking at home? Yes ☐ No ☐

   (b) Had you done any woodworking at school? Yes ☐ No ☐

   (c) Had you done any metalworking at home? Yes ☐ No ☐

   (d) Had you done any metalworking at school? Yes ☐ No ☐

   (e) Had you done any plastics work at home? Yes ☐ No

   (f) Had you done any plastics work at school? Yes ☐ No ☐

7. Do you feel that the time you have spent in the workshops has been worthwhile? Yes ☐ No ☐

   Why?..... ....

   .....

8. Do you feel that the time you had in the workshops was:

   too long? ☐

   just right? ☐

   not long enough? ☐

   Why? .....

   ....

.....

.....

9. How often would you like the workshops to visit your area?

Once a year ☐ Twice a year ☐

Three times a year ☐ Every ☐ months

Please give reasons for your answer:

.....

.....

10. Please show how you liked each of the different subjects you did by placing a tick ( ) in one of the columns marked "Very Much" "All right","Not Much" and please give a reason for your answer.

(Please cross out any subjects you were not involved with.)

Subject	Very Much	All right	Not Much	Reason
Woodwork				
Metalwork				
Plastics				
Graphics				
Welding				
Motor Mechanics				

11. Which three projects did you like making most of all?

.....

Why did you like making them?

....

.....

12. Which three projects did you like making least of all?

.....

.....

What didn't you like about those projects?

... .

.....

13. Now that you have gained some practice in the Manual Arts Workshops, will you be trying to make more things at home?

Yes ☐ No ☐

If you answered yes, what sorts of things will you try to make?

.....

.....

If you answered no, give your reason.

.....

.....

14. Do you think the things you have learnt in the workshops will help you in your everyday life?

Yes ☐ No ☐

If you answered yes, please say how:

.....

.....

If you answered no, please say why:

.....

.....

15. What are your overall impressions of the Manual Arts mobile workshops?

.....

....

S. R. Hampson, Government Printer, Queensland

"END OF DOCUMENT"